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UNIV. OF MISS.
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Vol. VIII, No. 5. MAY, 1907.

BULLETIN

OF THE

UNIVERSITY OF MISSOURI

CATALOGUE

SIXTY-FIFTH REPORT OF THE CURATORS TO THE GOVERNOR OF THE STATE

1906-1907

COLUMBIA, MISSOURI.

Published by the University of Missouri, twice monthly. Entered April 20, 1907, at Columbia, Missouri, as second-class matter under act of Congress of July 16, 1894.

UNIVERSITY OF MISSOURI

¶ *"Religion, morality and knowledge being necessary to good Government and the happiness of mankind, schools and the means of education shall forever be encouraged." Ordinance of 1787.*

UNIVERSITY OF MISSOURI

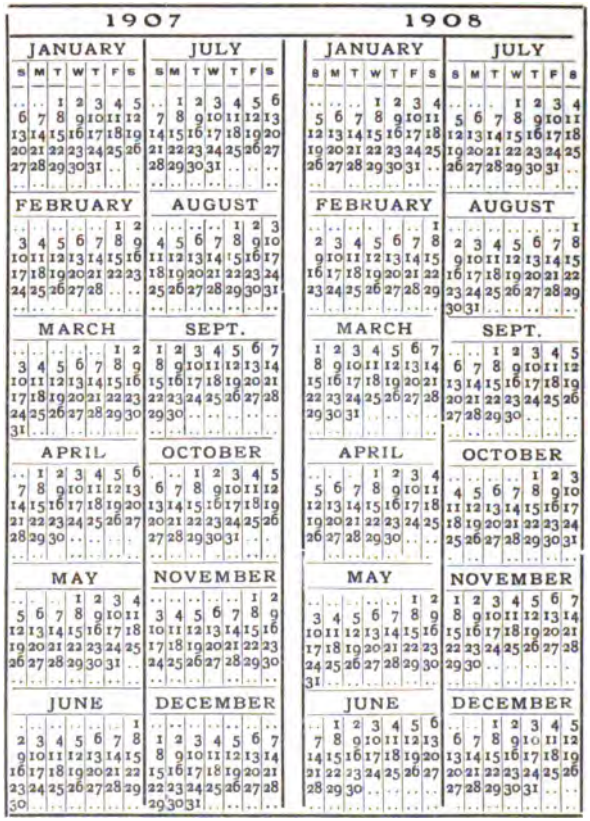
CATALOGUE

Sixty-Fifth Report of the Curators to the Governor of the State.

1906-1907.

COLUMBIA, MISSOURI.

CALENDAR FOR 1907—1908.



OF THE CAMPUS
UNIVERSITY
AT
STREET
UNIVERSITY
HORTICULTURAL
GROUNDS
AVENUE
HUDSON
AVENUE
STREET
AVENUE
HUDSON
STREET
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ELM STREET
SIXTH STREET
CONLEY
SEVENTH STREET
TURNER STREET
ROLLINS
ROLLINS

UNIVERSITY CALENDAR.

At Columbia.

1907—January 21-26 ..... Mid-Year Examinations
January 28-30 ..... Entrance Examinations
January 29, Tuesday ..... Second Semester Begins
February 22, Friday ..... Holiday
April 4, Thursday ..... Quarterly Meeting of the Curators
May 27 to June 1 ..... Final Examinations
June 1, Saturday ..... Stephens Medal Contest
June 2, Sunday ..... Baccalaureate Sermon
June 3, Monday ..... Class Day
June 3-5 ..... Entrance Examinations
June 4, Tuesday ..... Alumni and Phi Beta Kappa Day
June 5, Wednesday ..... Annual Meeting of the Curators
June 5, Wednesday ..... Commencement Day
June 8, Saturday ..... Summer Session Begins
August 7, Wednesday ..... Summer Session Closes
September 9-12 ..... Entrance Examinations
September 9, Monday ..... All Departments Open
September 12, Thursday ..... Opening Convocation
September 13, Friday ..... Class Work Begins
November 26, Tuesday, at 4 p. m., to
December 2, Monday, 8 a. m. .....Thanksgiving Holidays
December 20, Friday, at 4 p. m., to
1908—January 2, Thursday, at 8 a. m. ..... Christmas Holidays
January 20-25 ..... Mid-Year Examinations
January 27-29 ..... Entrance Examinations
January 27, Monday ..... Second Semester Begins
February 22, Saturday ..... Holiday
April 2, Thursday .... Quarterly Meeting of the Curators
May 25-30 ..... Final Examinations
May 30, Saturday ..... Stephens Medal Contest
May 31, Sunday ..... Baccalaureate Sermon
June 1, Monday ..... Class Day
June 1-3 ..... Entrance Examinations
June 2, Tuesday ..... Alumni and Phi Beta Kappa Day
June 3, Wednesday ..... Annual Meeting of the Curators
June 3, Wednesday ..... Commencement Day

At Rolla (see next page).

UNIVERSITY CALENDAR—Continued.

At Rolla.

1907—May 31 to June 6, inclusive ..... Final Examinations
June 8, Saturday, 10 a. m. ..... Annual Commencement
September 14 and 16, Saturday and Monday .....
Entrance Examinations.
September 17, Tuesday ..... First Term Begins
October 3, Thursday Quarterly Meeting of Board of Curators
November 28, Thursday ..... Thanksgiving Holiday
December 20, Friday ..... Christmas Recess Begins
1908—January 2, Thursday ..... Second Term Begins
February 22, Saturday ..... Holiday
March 16, Monday ..... Third Term Begins
May 30 to June 5, inclusive ..... Final Examinations
June 6, Saturday ..... Annual Commencement

The Board of Curators reserves the right, without further notice, to modify any announcement made in this Catalogue, if circumstances should render such change necessary, and they will be bound by it in any event only for the session following the date of publication.

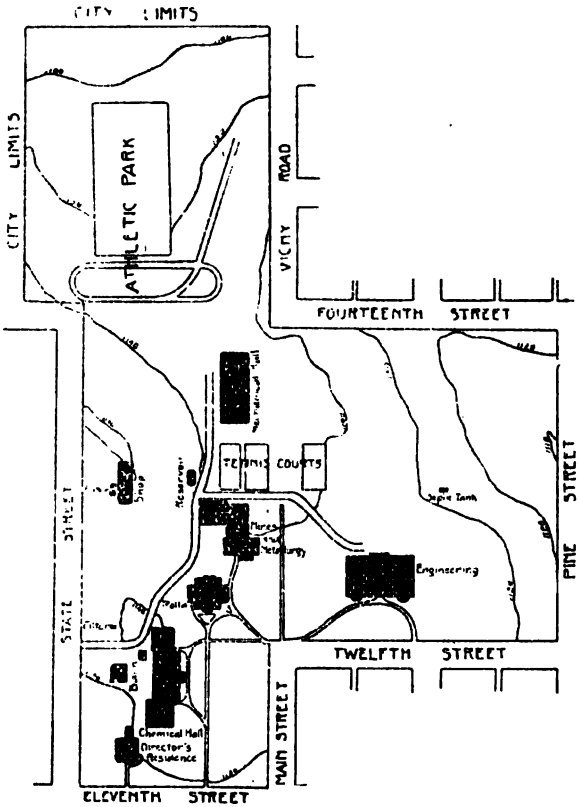
MAP

OF THE CAMPUS AND GROUNDS OF THE

UNIVERSITY OF MISSOURI

AT ROLLA

Scale 1 in. 400 ft



SCHEDULE OF EXAMINATIONS.

Hour of Recitation.		Time of Examination.
8	M. W. F.	9-12 Monday of examination week
8	T. Th. S.	2-5 Monday of examination week
9	M. W. F.	9-12 Tuesday of examination week
9	T. Th. S.	2-5 Tuesday of examination week
10:30	M. W. F.	9-12 Wednesday of examination week
10:30	T. Th. S.	2-5 Wednesday of examination week
11:30	M. W. F.	9-12 Thursday of examination week
11:30	T. Th. S.	2-5 Thursday of examination week
2	M. W. F.	9-12 Friday of examination week
2	T. Th. S.	2-5 Friday of examination week
3	M. W. F.	9-12 Saturday of examination week
3	T. Th. S.	2-5 Saturday of examination week
4-5	M. W. F.	9-12 Monday following examination week
4-5	T. Th. S.	2-5 Monday following examination week

FOR ONE HOUR SUBJECTS.

Classes reciting on Monday only, will have from 8 to 10 on M., T., W., Th., F., or S., according as they recite at 8, 9, 10:30, 11:30, 2 or 3 respectively.

Classes reciting on Wednesday only, will have from 10 to 11 on M., T., W., Th., F., or S., according as they recite at 8, 9, 10:30, 11:30, 2 or 3 respectively.

Classes reciting on Friday only, will have from 11 to 12 on M., T., W., Th., F., or S., according as they recite at 8, 9, 10:30, 11:30, 2 or 3 respectively.

Classes reciting on Tuesday only, will have from 1 to 3 on M., T., W., Th., F., or S., according as they recite at 8, 9, 10:30, 11:30, 2 or 3 respectively.

Classes reciting on Thursday only, will have from 3 to 4 on M., T., W., Th., F., or S., according as they recite at 8, 9, 10:30, 11:30, 2 or 3 respectively.

Classes reciting on Saturday only, will have from 4 to 5 on M., T., W., Th., F., or S., according as they recite at 8, 9, 10:30, 11:30, 2 or 3 respectively.

Classes coming 2, 4, 5, or 6 times a week, can easily find an examination period or periods from the above. For example, a class coming at 9 on M. W. would have 8-11 Tuesday of examination week.

Monday following examination week is reserved for all other classes and for conflicts.

Columbia, Missouri, 13 April, 1907.

To His Excellency, Joseph W. Folk, Governor of Missouri:

Sir.—I have the honor to present herewith the annual catalogue of the University of Missouri, reviewing in part the work of the current session and outlining, as far as possible, the programme for the scholastic year 1907-8.

The session of 1905-6 closed at Columbia on 6 June, and at Rolla on 8 June, 1906. The work which I am to review began with the opening of the summer session at Columbia on 9 June, 1906. The Summer Session, as you know, is counted as a part of the following session—as sort of introduction to it. The enrollment in this Summer Session reached 403. It was the largest that we have had since the work of the Summer Session was placed upon a University basis. The regular session of the University opened at Columbia on 11 September, and at Rolla on 18 September, 1906. Up to the present date (13 April) the enrollment in the regular session has reached 1817 at Columbia, and 210 at Rolla, which is the largest enrollment that we have yet had either at Columbia or at Rolla. Thus in the Summer Session and in the Winter Session, both at Columbia and at Rolla, our enrollment for the year 1906-7 has surpassed that of any previous year. The total enrollment for last year in the Summer Session and in the Winter Session at Columbia and at Rolla was 2072. The gain has been 219 students. Naturally some students enroll in the Summer Session who, enroll in the Winter Session also. These have been carefully deducted, no students being counted more than once. If the University continues to grow at this rate, our enrollment in twelve years more will be nearly 5,000. Whether this growth will or will not continue is not known to the writer. To him, at least, it does not seem that we have more than begun to develop our possibilities of growth.

The number of Extension Students last year was 89, while this year it has grown to 244. These Extension Students have not been included in the estimates made in the preceding paragraph.

No University can succeed that is not governed by wise trustees. The University of Missouri for many years has been blessed with an admirable Board of Curators. Every sacrifice that has been demanded of them they have made without hesitation or without question. The burden which falls upon some of them is pecu-

liarly heavy. The people of the State will never know what they owe to certain Curators of the University.

Since the spring of 1906 (that is within the last fourteen months) approximately about twenty-five teachers and officers of the University have been called to other institutions at higher salaries or with higher rank. It has been impossible for us to meet the competition in every case. We have lost some teachers. But I am happy to say that in a majority of cases, and in the case of our most valuable men, we have succeeded in retaining them. Some increase in salary on our part was necessary in most cases but in many cases the salary that we finally offered was considerably smaller than that offered by the competing University. Our men have generally felt that Missouri was a field of great opportunity in educational lines, and that the question should not be decided by money alone. Affection for the University of Missouri also played some part in their choice. For our success in retaining the men that have been called from us of late, I feel profoundly grateful. Probably no University in America has had so large a percentage of its men called to other institutions, as the University has within the the last fourteen months. The reason is that the Curators, the President, and the Deans of our University have displayed great care and discrimination in choosing its faculty, and other institutions have found it out.

It seems to me eminently foolish to let a good man leave the service of our University unless we are compelled to do so. But if we are to retain our best men against the bids of other universities, we must pay as good salaries as other universities pay. So far as internal administration is concerned, no question in the University of Missouri seems to me of so great importance as this question of salaries for our best men. There are thirteen large universities in America that pay better salaries than the University does, and that generally get our men whenever they want them. No reason appears to me why Missouri cannot pay as good salaries as any one of these thirteen institutions. It is not fair to the President and the Curators to expect them to maintain at Columbia the present high standard in their faculties with other institutions constantly soliciting our men at higher salaries. Moreover, our best men are worth the salaries that these thirteen other institutions give their best professors. It is morally wrong for Missouri to attempt to retain some of her men on the salaries that are paid them here now. There is nothing personal in this plea. What I am saying does not apply

to the salary of the President or of the Deans, but solely to the salaries of our best professors not connected with administrative work—to the salaries of men who spend their lives in teaching, investigating and publishing. The salaries paid to the best of such men at the thirteen universities alluded to above vary from $3,000 and a house to $7,000 a year according to the cost of living. This I am saying upon the authority of letters received this spring from the Presidents of these universities, which letters your Excellency can see at any time. In a number of our commonwealths, the maintenance and support of the State University is derived from a tax on all property in the Commonwealth. Except by amendment of the statutes, the Legislature has no power to increase or diminish this sum of money. In such States the University may appeal to the Legislature for buildings, books, and equipment, but its maintenance and support are fixed by law. Twelve States have adopted this method. Sooner or later, Missouri and every other State that has a University will adopt the same method. The rate of taxation for the maintenance of the University in each of these States is given below:

Arizona—Three-fifths mill tax for the University of Arizona.

California—One-fifth mill tax for the University of California. (See paragraph 12 below).

Colorado—Two-fifths mill tax for the University of Colorado; one-fifth mill for the State School of Mines; one-fifth mill for the State Agricultural College.

Indiana—One-tenth mill tax for Indiana University; one-tenth mill for Purdue University.

Kentucky—One-twentieth mill tax on the property of the white people for the Agricultural and Mechanical College of Kentucky. In 1904, in addition to the tax levy, Kentucky gave her College of Agriculture $150,000.

Michigan—One-fourth mill tax for the University of Michigan; one-tenth mill, but not to exceed $100,000, in any one year, for the State Agricultural College. The University is aiming this spring (1907) to have the Legislature change its rate from one-fourth to one-half mill per annum.

Minnesota—Twenty-three one-hundredths mill tax for the University of Minnesota.

Nebraska—One mill for the University of Nebraska.

North Dakota—Two-fifths mill tax for the University of North Dakota; one-fifth mill for the North Dakota Agricultural College; three one-hundredths mill for the School of Forestry.

Ohio—Fifteen one-hundredths mill tax for the Ohio State University; seven two-hundredths mill for Ohio University; one-fortieth mill for Miami University; one one-hundredth mill for Wilberforce University.

Wisconsin—Two-sevenths mill tax for the University of Wisconsin.

Wyoming—Three-eighths mill tax for the University of Wyoming.

In 1903 the State of California, in addition to the regular tax levy, appropriated $100,000 for maintenance and support of the State University for each of two years.

Alabama grants to the Alabama Polytechnic Institute one-third of the net proceeds arising from the sale of fertilizer tags, and South Carolina grants to Clemson Agricultural College the entire proceeds of the fertilizer tax.

The following States have made provision for their Normal Schools also:

Colorado—One-fifth of a mill for the State Normal School.

Indiana—Three-fortieths of a mill for the State Normal School.

North Dakota—Twelve one-hundredths of a mill for the Normal School at Valley City; and twelve one-hundredths of a mill for the Normal School at Devil's Lake.

Wisconsin—State tax for seven Normal Schools, which tax is fixed for the seven since 1903, at $230,000 a year. (Wisconsin School Report 1904-5, p. 109).

In my opinion, this is the most important question affecting the University and the future of higher education in Missouri.

At the date at which I am writing (13 April) your Excellency has not yet signed the Appropriation Bill made by the General Assembly. From 1 January to 13 April the University has been running on borrowed money. It came to the end of the Biennial period penniless, for with the last appropriation it took the strictest economy to bring the University to the close of the Biennial period free of debt. We had to begin the Biennial period on borrowed money, and on borrowed money we have been living and are living yet. The foremost University of learning in the State—the foremost institution of learning within the range of many States—one of the dozen foremost universities of America—the head of the Public School system of this great commonwealth—the model for many universities in many parts of the country—has been living for three and a half months on borrowed money. When this present

biennial period comes to a close, no one knows whether the Legislature will give the University money enough to live on for another biennial period. That it will give the University an appropriation is reasonably certain, but if the Legislature were to fail to give us an appropriation commensurate with our growth and our needs, we should be ruined. The plan adopted in the twelve States mentioned above for the maintenance and support of their universities, makes the income of the university increase with the property of the State. We should be perfectly satisfied if the income of the University increased as the value of property in Missouri increases. The present method of supporting the University is hazardous and unwise from the standpoint of (wise) educational policy, and from the standpoint of (sound) Statecraft. Your Excellency must agree—does agree with this view. Your message to the Legislature recommending what I am advocating in this report, commits you to this policy. The pressure of business and accidents alone kept the Legislature from adopting your suggestion. I trust that your Excellency will labor in this behalf to the end of your administration, and will leave behind you as a monument to your wisdom, *stable maintenance* for the University and the Normal Schools of the State.

Very respectfully yours,

C. B. FARIS,

Acting President of the Board of Curators.

CORPORATION.

THE BOARD OF CURATORS.

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CAMPBELL WELLS, Platte City
C. B. FARIS, Caruthersville .....
} Term expires January 1, 1909.

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B. H. BONFOEY, Unionville, ...
J. C. PARRISH, Vandalia, ...
} Term expires January 1, 1911

J. V. C. KARNES, Kansas City, .
P. E. BURTON, Joplin ....
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} Term expires January 1, 1913.

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R. B. PRICE ..... Treasurer

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HENRY WOOD, Treasurer (office at Rolla).

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BENTON GABBERT ..... Dearborn
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A. H. BOLTE ..... Union
W. O. L. JEWETT ..... Shelbina

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

Names are printed in the several groups in the order of appointment. Those marked with a * are names of officers or members of the Faculty of the School of Mines and Metallurgy at Rolla, Missouri.

RICHARD HENRY JESSE, LL. D.,

President, and Professor of Ancient and Mediaeval History.

Student, University of Virginia, 1873-5, and part of 1878; Dean of Academic Department, University of Louisiana, 1878-84; Professor of Latin, Tulane University, 1884-91; studied in Europe part of 1885 and of 1890; LL. D., Tulane University, 1891; Member of "Committee of Ten," 1892-3; Member of Administrative Board, Congress of Arts and Science, Louisiana Purchase Exposition, St. Louis, 1904; LL. D., University of Wisconsin, 1904; LL. D., South Carolina College, 1905; awarded Commemorative Diploma, and Medal "In recognition of distinguished services to Education," Louisiana Purchase Exposition, St. Louis, 1904; President of National Association of State Universities, 1905-06; delegate from the United States to First International Congress of Radiology in Belguim, summer of 1905; Studied in University of Munich, Spring and Summer Semester, 1905, and in University of Berlin, Fall and Winter Semester, 1905-06; LL. D., Missouri Valley College, 1906; President of University of Missouri, 1891—.

PAUL SCHWEITZER, Ph. D., LL. D.,

Professor of Agricultural Chemistry.

Student under Schneider, Sonnenschein, and H. Rose at Berlin, 1858-60; Chemist to the Soda Ash Works, Schoeningen, 1860-2; Chemist to the Chemical Works at Detmold, 1862-3; Assistant Professor of Chemistry, Polytechnic Institute, Philadelphia, 1865-6; Assistant in School of Mines, Columbia College, 1866-72; Ph. D., University of Goettingen, 1869; LL. D., University of Missouri, 1897; Professor in the University of Missouri, 1872—.

ANDREW WALKER McALESTER, A. B., M. D., LL. D.,

Professor of Surgery and Dean of the Department of Medicine.

A. B., University of Missouri, 1865, M. D., 1866, A. M., 1868, LL. D., 1897; studied abroad, 1873 and 1885; Professor of Surgery, University of Missouri, 1873-1880; President of State Board of Health, 1901-05; Superintendent Parker Memorial Hospital, 1901-05; Professor of Surgery and Dean of Department of Medicine, University of Missouri, 1880—.

WOODSON MOSS, M. D., LL. D.,

Professor of the Practice of Medicine and Therapeutics.

M. D., University of Missouri, 1874; Instructor in Medicine and Demonstrator of Anatomy, 1875-8; Professor of Anatomy and Demonstrator, 1878-83; Professor of Anatomy and Physiology, 1883-91; studied in Europe, 1890; Professor of Anatomy and the Practice of Medicine, University of Missouri, 1891-1900; LL. D., 1901, Professor of the Practice of Medicine and Therapeutics, 1900—.

EDWARD ARCHIBALD ALLEN, Litt. D.,

Professor of English Language and Literature.

Student, Randolph-Macon College, 1861-2; University of Virginia, 1866-8; Professor of Latin and Greek, Farmville College (Va.), 1873-81; Professor of English and Modern Languages, Central College, 1881-5; Litt. D., Washington and Lee University, 1890; Professor of English, University of Missouri, 1885—.

WILLIAM GWATHMEY MANLY, A. M.,

Professor of Greek Language and Literature.

University of Virginia, 1882-4; Assistant Head Master, McCabe's University School, 1884-6; Professor of Greek, Mercer University, 1886-9; A. M., Harvard University, 1890; American School of Classical Studies at Athens, and traveling in Greece, 1900; University, Berlin, 1904; Professor of Greek, University of Missouri, 1890—.

JOHN CARLETON JONES, A. B., A. M., Ph. D.,

Professor of Latin Language and Literature, and Dean of the College of Arts and Science.

A. B., Westminster College, 1879, A. M., 1882, Ph. D., 1891, Professor of Latin, 1880-82; Graduate Student, Johns Hopkins University, 1882-3; Assistant Professor of Latin and Greek, University of Missouri, 1883-7, Associate Professor of Latin, 1887-91; Student, University of Leipzig and at Rome, 1895-6; Student, University of Munich, 1903-4; Acting President, University of Missouri, 1905-06; Professor of Latin, University of Missouri, 1891—; Dean of College of Arts and Science, 1900—.

JOHN WALDO CONNAWAY, D. V. S., M. D.,

Professor of Veterinary and Comparative Medicine, and Veterinarian to the Experiment Station.

D. V. S., Chicago Veterinary College, 1890; M. D., University of Missouri, 1891; Student, Johns Hopkins University, 1894-5; Professor of Physiology, University of Missouri, 1891-7; Professor of Physiology, and Veterinarian to the Experiment Station, 1897-1900; Student, Hygienic Institute, Royal Veterinary School, Hanover, 1904; University of Berlin, 1905; Professor of Comparative Medicine, and Veterinarian to the Experiment Station, University of Missouri, 1900—.

JOHN DAVISON LAWSON, LL. D.,

Professor of Contract and International Law, and Dean of the Department of Law.

LL. B., Osgoode Hall, 1875; B. C. L., Trinity College, 1875; Editor *Central Law Journal*, 1876-81; Practiced law 1876-85; Judge Civil Court, 1886-91; LL. D., University of Missouri, 1892; Professor of Law, 1891-1903; President Missouri Bar Association, 1904-5; Professor of Contract and International Law, and Dean of the Department of Law, 1903—.

JOHN PICKARD, A. B., A. M., Ph. D.,

Professor of Classical Archaeology and History of Art, and Curator of the Museum of Classical Archaeology.

A. B., Dartmouth College, 1883, A. M., 1886; Student, University of Leipsig, 1889, University of Berlin, 1890 and 1895, American School of Classical Studies in Athens, 1890-1, University of Munich, 1891-2; Ph. D., University of Munich, 1892; Student, American School of Classical Studies in Rome, 1901-2; Dean of Academic Faculty, University of Missouri, 1898-9; Acting Dean of the Academic Faculty, 1904-5; Professor of Classical Archaeology, 1892—.

JOHN CHARLES WHITTEN, B. S., M. S., Ph. D.,

Professor of Horticulture, Horticulturalist to the Experiment Station, and Tutor to the University.

B. S., South Dakota Agricultural College, 1891, M. S., 1899; Instructor in Horticulture, and Horticulturist (in charge) to the Experiment Station, South Dakota Agricultural College, 1892; Student, Cornell University, 1892; Assistant in Horticulture, Missouri Botanical Garden, 1893-4; Ph. D., University of Halle-Wittenberg, 1903; Tutor to the University, 1905—; Professor of Horticulture, and Horticulturist to the Experiment Station, University of Missouri, 1894—.

HENRY JACKSON WATERS, B. S. A.,

Dean of the College of Agriculture and Mechanic Arts, and Director of the Experiment Station.

B. S. A., University of Missouri, 1886; Assistant Secretary, Missouri State Board of Agriculture, 1886-8; Assistant in Agriculture to the Missouri Experiment Station, 1888-91; Professor of Agriculture, Pennsylvania State College, and Agriculturist to the Experiment Station, 1892-5; Director State Agricultural Exhibit, World's Fair, St. Louis, 1903-4; Student at the Universities of Leipzig and Zurich, 1904-05; Dean of the College of Agriculture and Mechanic Arts, and Director of the Experiment Station, University of Missouri, 1895—.

BENJAMIN FRANKLIN HOFFMAN, B. L., M. L.,

Professor of Germanic Languages.

B. L., University of Missouri, 1884, M. L., 1888; Assistant Professor of Modern Languages, University of Missouri, 1887-92; Student Paris and Munich, 1892-3; Professor of Modern Languages, University of Louisiana, 1893-5; Student, University of Chicago, Summer Sessions, 1894, '95, '97; University of Leipzig, 1902-3; Professor of Germanic Languages, University of Missouri, 1895—.

FREDERICK BLACKMAR MUMFORD, B. S., M. S.,

Professor of Animal Husbandry; In Charge of Animal Husbandry Department.

B. S., Michigan Agricultural College, 1891, M. S., 1893; Assistant in Michigan Agricultural Experiment Station, 1891-5; Assistant Professor of Agriculture, Michigan Agricultural College, 1893-5; Student, University of Leipsig, 1900, Zurich, 1901; Professor of Agriculture, University of Missouri, 1895-1904; Acting Dean of the College of Agriculture and Mechanic Arts, and Acting Director of the Experiment Station, 1903-05; Professor of Animal Husbandry, 1904—; in charge of Animal Husbandry Department in the Experiment Station 1906—.

JOHN MOORE STEDMAN, B. Sc.,

Professor of Entomology, and Entomologist to the Experiment Station.

B. Sc., Cornell University, 1888; Instructor in Invertebrate Zoology and Entomology, and Assistant Entomologist to the Experiment Station, 1888-90; Biologist to the United States Department of Agriculture, 1890-1; Professor of Biology, Trinity College, 1891-3; Professor of Biology, Alabama Polytechnic Institute, Agricultural and Mechanical College, and Biologist to the Experiment Station, 1893-5; Professor of Entomology, and Entomologist to the Experiment Station, University of Missouri, 1895—.

RAYMOND WEEKS, A. B., A. M., Ph. D.,

Professor of Romance Languages.

A. B., Harvard University, 1890, A. M., 1891; Instructor in French, University of Michigan, 1891-3; Traveling Fellow, Harvard University (Paris and Berlin), 1893-5; Ph. D., Harvard University, 1897; Student at Paris, 1904-5; Professor of Romance Languages, University of Missouri, 1895—.

WILLIAM GEORGE BROWN, B. S., Ph. D.,

Professor of Chemistry, and Director of the Laboratories.

Miller Scholar, University of Virginia, 1875, B. S., 1877; Professor of Chemistry, East Tennessee University, 1877-8; Professor of General and Agricultural Chemistry, University of Tennessee, 1878-80; Professor of Chemistry and Mineralogy, 1880-3; Student, University of Heidelberg, 1880-1; Instructor in Chemistry, University of Virginia, 1883-5; Morgan Fellow, Harvard University, 1884; Professor of Chemistry and Physics, South Carolina Military Academy, 1885-6; Professor of Chemistry, Washington and Lee University, 1886-94; Ph. D., (Hon.), University of North Carolina, 1889; Assistant Chemist, U. S. Department of Agriculture, 1894-6; Editor, University of Missouri Studies, 1904—; Professor of Chemistry, University of Missouri, 1896-1905; Professor of Chemistry and Director of the Laboratories, 1905—.

JOHN RUTLEDGE SCOTT, A. B., A. M.,

Professor of Elocution.

A. B., Ohio University, 1864, A. M., 1867; studied with James E. Murdoch, 1871; Instructor in Elocution, Washington University, 1877-88; Instructor in Vocal Culture, Johns Hopkins University, 1893-7; Professor of Elocution, University of Missouri, 1897—.

*GEORGE EDGAR LADD, A. B., A. M., Ph. D.,

Director of School of Mines and Metallurgy, and Professor of Geology and Mining.

A. B., Harvard University, 1887. A. M., 1888; Assistant United States Geological Survey, 1887-9; Assistant Geologist, Geological Survey of Texas, 1889; Chief Assistant Geological Survey of Missouri, 1889-91; Assistant in Geology, Harvard University, 1891-3, Instructor in Geology, Summer School, 1892-3, 1896-7, Ph. D., 1894; Student, German Universities, 1894-5; Chemist and Assistant Geologist, Geological Survey of Georgia, 1896-7; Director Missouri Mineral Exhibit, World's Fair, St. Louis, 1904; Director and Professor of Geology and Mining, University of Missouri (School of Mines), 1897—.

*GEORGE REGINALD DEAN, B. S., C. E.,

Professor of Mathematics.

C. E., University of Missouri (School of Mines), 1890, B. S., 1891, Assistant in Mathematics, 1890-1; Professor of Mathematics, Maryville Seminary, 1891-2; Professor of Mathematics, Coe College (Ia.), 1892-3; Assistant in Leander McCormick Observatory, University of Virginia, 1893-4; Teacher of Mathematics, Central High School, Kansas City, Mo., 1894-7; Professor of Mathematics, University of Missouri (School of Mines), 1897—.

ISIDOR LOEB, B. S., LL. B., Ph. D.,

Professor of Political Science and Public Law.

B. S., University of Missouri, 1887, M. S., LL. B., 1893, Tutor in History, 1892-4; University Fellow in Jurisprudence, Columbia University, 1894-5; Assistant Professor of History, University of Missouri, 1895-9; Student, University of Berlin, 1899-1900; Professor of History, University of Missouri, 1899-1901; Ph. D., Columbia University, 1901; Professor of History and Administration, University of Missouri, 1901-2; Professor of Political Science and Public Law, 1902—.

CURTIS FLETCHER MARBUT, B. S., A. M.,

Professor of Geology and Mineralogy, and Curator of the Geological Museum.

B. S., University of Missouri, 1889; A. M., Harvard University, 1894; Instructor in Geology and Mineralogy, University of Missouri, 1895-7; Assistant Professor of Geology and Mineralogy, 1897-9; Studied in Europe, 1899-1900; Professor of Geology and Mineralogy, University of Missouri, 1899—.

HOWARD BURTON SHAW, A. B., B. C. E., A. M.,

Professor of Electrical Engineering.

A. B., University of North Carolina, 1890, B. C. E., 1891, Instructor in Mathematics, 1889-90, Instructor in Mathematics, Surveying and Drawing, 1891-3; in Engineering Work with Phoenix Iron Company, 1892; A. M., Harvard University, 1894; Assistant in Electrical Engineering Laboratory, Lawrence Scientific School, Harvard University, 1894-6; in Engineering Work with Consolidated Traction Company, 1896; Assistant Professor of Electrical Engineering, University of Missouri, 1896-9; Junior Dean of the School of Engineering, 1904-05; Professor of Electrical Engineering, 1899—.

*AUSTIN LEE McRAE, B. S., S. D.,

Professor of Physics.

B. S., University of Georgia, 1881; S. D., Harvard University, 1886; U. S. Signal Service (Electrical Work), 1882-9; U. S. Signal Service (Missouri State Weather Service), and Assistant Professor of Physics, University of Missouri, 1889-91; Professor of Physics, University of Missouri (School of Mines), 1891-4; Associate Professor of Physics, University of Texas, 1894-6; Consulting Engineer, St. Louis, 1896-9; Professor of Physics, University of Missouri (School of Mines), 1899—.

GEORGE LEFEVRE, A. B., Ph. D.,

Professor of Zoology, and Curator of the Zoological Museum.

A. B., Johns Hopkins University, 1891, Fellow, 1894-5, Bruce Fellow, 1895-7, Ph. D., 1896, Assistant in Zoology and Embryology, 1897-8; Instructor in Zoology, Marine Biological Laboratory, Woods Hole, Mass., 1898-9; Professor of Zoology, University of Missouri, 1899—.

CHARLES A. ELLWOOD, Ph. B., Ph. D.,

Professor of Sociology.

Ph. B., Cornell University, 1896; Student, University of Chicago, 1896-7, University of Berlin, 1897-8; Fellow in Sociology, University of Chicago, 1898-9, Ph. D., 1899; General Secretary, Charity Organization Society, Lincoln, Nebraska, 1899-1900; Instructor in Sociology University of Nebraska, 1899-1900; Professor of Sociology, University of Missouri, 1900—.

CHARLES WILSON GREENE, A. B., A. M., Ph. D.,

Professor of Physiology and Pharmacology.

A. B., Leland Stanford Jr. University, 1892, A. M., 1893; Ph. D., Johns Hopkins University, 1898; Instructor in Physiology, Leland Stanford Jr. University, 1893-8, Assistant Professor, 1898-1900; Instructor in Zoology, Marine Biological Laboratory, 1896-7, in Physiology, 1900; Fellow in Physiology, Johns Hopkins University, 1897-8; Assistant, U. S. Bureau of Fisheries, 1901—; Professor of Physiology and Pharmacology, University of Missouri, 1900—.

MAX MEYER, Ph. D.,

Professor of Experimental Psychology.

Ph. D., University of Berlin, 1896; Research Work, Psychological Laboratory, University of Berlin, 1896-8; Research Work, Clark University, 1899-1900; Professor of Experimental Psychology, University of Missouri, 1900—.

CLARK WILSON HETHERINGTON, A. B.,

Professor of Physical Training, and Director of Gymnasiums and Athletics.

A. B., Leland Stanford Jr. University, 1895, Instructor, Encina Gymnasium, 1893-6; Anthropologist and Director of Physical Training, Whittier State School, 1896-8; Fellow in Psychology, Clark University, 1898-9; Fellow and Assistant in Psychology, 1899-1900; Student in Europe, 1904-5; Professor of Physical Training, and Director of Gymnasiums and Athletics, University of Missouri, 1900—.

FREDERICK PUTNAM SPALDING, C. E.,

Professor of Civil Engineering.

C. E., Lehigh University, 1880; Member of Engineer Corps, Southern Pacific Railway, 1880-2; Assistant Engineer, Mississippi River Improvements, 1882-6 and 1888-90; Instructor in Civil Engineering, Lehigh University, 1886-8; Engineering in Charge of Street Extensions, Washington, D. C., 1890-1; Assistant Professor of Civil Engineering, Cornell University, 1891-8; Contracting Engineer, Bethlehem, Pa., 1898-1900; Junior Dean of the School of Engineering, 1905-6; Professor of Civil Engineering, University of Missouri, 1900—.

†JESSE ELIPHALET POPE, B. S., M. S., Ph. D.,

Professor of Economics and Finance.

B. S., University of Minnesota, 1895, M. S., 1897; Superintendent Monticello Schools, 1896-7; Instructor in History, University of Minnesota, 1897-8; Student, Columbia University, 1897-1900; Fellow in Economics, 1898-1900, Honorary Fellow, 1900; Professor of Economics and Finance, New York University, 1900-1; Ph. D., Columbia University, 1905; Professor of Economics and Finance, University of Missouri, 1901—.

FREDERICK HANLEY SEARES, B. S.,

Professor of Astronomy, and Director of the Laws Observatory.

B. S., University of California, 1895, Fellow in Astronomy, 1895-6, Instructor in Astronomy, 1896-8, Graduate Student, 1898-9; Student, University of Berlin, 1899-1900, University of Paris, 1900-1; Professor of Astronomy, University of Missouri, 1901—.

†On leave of absence, session 1906-07.

*VICTOR HUGO GOTTSCHALK, B. S., M. S.,

Professor of Chemistry.

B. S., University of Missouri (School of Mines), 1898; Assistant U. S. Assayer, Kansas City, Mo., 1898-9; Assistant in Chemical Department, Marion-Sims Medical College, 1899; Assistant in Chemistry, University of Missouri (School of Mines), 1899-1900, Instructor in Chemistry, 1900-1, Acting Professor of Chemistry, 1901; Student University of Chicago, 1901, Cornell University, 1901-2; Professor of Chemistry, University of Missouri (School of Mines), 1902—.

BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,

Professor of Botany.

B. S., Agricultural and Mechanical College, Mississippi, 1891; M. S., Alabama Polytechnic Institute, 1892; A. B., Harvard University, 1894 (University Scholar), A. M., 1895 (Townsend Scholar); Botanical Assistant, Illinois State Lab. Nat. Hist., 1895-6; Instructor in Botany, Cornell University, 1896-9, Ph. D., 1898; Student, Universities of Leipzig and Halle, 1899-1900; Naples Biological Laboratory, 1900; Assistant Professor of Botany, Cornell University, 1900-1; Physiologist Bureau Plant Industry, U. S. Department of Agriculture, 1901-2; Student, Universities of Munich and Montpellier, 1905-06; Professor of Botany, University of Missouri, 1902—.

ARTHUR MAURICE GREENE, JR., B. S., M. E.,

Professor of Mechanical Engineering, and Junior Dean of the Department of Engineering.

B. S., University of Pennsylvania, 1893, M. E., 1894; Instructor in Drawing, Graphics, and Kinematics, Drexel Institute, 1894-5; Instructor in Mechanical Engineering, University of Pennsylvania, 1895-1902; Mechanical Engineer, National Export Exposition, Philadelphia, 1899; in charge of Apprentices' School, Franklin Sugar Refinery, Philadelphia, 1893-5; In Engineer's Office, Union Traction Company, Philadelphia, Summers of 1893, 1897 and 1898; Professor of Mechanical Engineering, University of Missouri, 1902—; Junior Dean of the Department of Engineering, 1906-07.

LUTHER MARION DEFOE, A. B.,

Professor of Mechanics in Engineering, and Tutor to the University.

Fellow in Mathematics, University of Missouri, 1891-2; A. B., Harvard University, 1893; Acting Professor of Mathematics, University of Missouri, 1893-4, Assistant Professor of Mathematics, 1894-7, Acting Professor of Mathematics, 1897-8, Assistant Professor of Mathematics, 1898-1902; Student, University of Cambridge (Eng.), 1902-3; Tutor to the University 1904—; Professor of Mathematics in the Teachers College, University of Missouri, 1904-5; Professor of Mechanics, 1902—.

CLARENCE MARTIN JACKSON, B. S., M. S., M. D.,

Professor of Anatomy and Histology, and Junior Dean of the Department of Medicine.

B. S., University of Missouri, 1898, M. S., 1899, M. D., 1900; Graduate Student, University of Chicago, 1900, 1901; University of Leipzig, 1903-04; University of Berlin, 1904; Fellow in Biology, University of Missouri, 1897-9; Instructor in Anatomy, 1899-1900; Assistant Professor (in charge) of Anatomy and Histology, 1900-02; Professor of Anatomy and Histology, 1902—; Junior Dean of the Department of Medicine, 1906—.

WALTER McNAB MILLER, B. Sc., M. D.,

Professor of Pathology and Bacteriology.

B. Sc., Ohio State University, 1885; Professor of Natural Science, University of Nevada, 1887-9; Professor of Anatomy, Physiology, and Geology, University of Nevada, 1889-99; M. D., Cooper Medical College, San Francisco, 1895; Bacteriologist and Pathologist, Nevada Agricultural Experiment Station, 1896-9; Student, Post-Graduate Medical Department, University of California, 1896; Johns Hopkins Medical School, 1899-1900; Harvard University Medical School, 1900; University of Leipzig, 1900-1; German University of Prague, 1901-2; Professor of Pathology and Bacteriology, University of Missouri, 1902—.

MAX WASHINGTON MYER, A. B., M. D.,

Professor of Gynecology and Obstetrics.

A. B., University of Missouri, 1897; M. D., Marion-Sims College of Medicine, 1899; Student, University of Strassburg, 1900, Berlin, 1901; Volunteer-Assistant in the Koenigliche Frauenklink, Munich, and Elizabeth Hospital (Gynecologic pavilion), Vienna, 1901-2; Professor of Gynecology and Obstetrics, University of Missouri, 1902—.

GUY L. NOYES, M. D.,

Professor of Diseases of the Eye and Ear, and Superintendent of the Parker Memorial Hospital.

M. D., University of Vermont, 1894; M. D., University of Michigan, 1901; Assistant in Ophthalmology, 1901; Demonstrator of Ophthalmic and Aural Surgery, 1902; Professor of Diseases of the Eye and Ear, University of Missouri, 1902—; Superintendent of Hospital, 1906—.

EDWARD WILCOX HINTON, LL. B.,

Professor of Pleading, Practice and Evidence.

LL. B., University of Missouri, 1890; LL. B., Columbia College, New York, 1891; in the General Practice of Law, 1891-1903; Professor of Law, University of Missouri, 1903—.

VASCO HAROLD ROBERTS, J. U. D.,

Professor of Corporation Law, and Real Property.

Student in Germany, 1898-1901; J. U. D., University of Heidelberg, Germany, 1901; Professor of Private Corporations, Real Property, etc., Drake University, 1901-3; Professor of Corporation Law, and Real Property, University of Missouri, 1903—.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,

Professor of Educational Psychology and Dean of the Teachers College.

Munro Bursar, Dalhousie College, Halifax, N. S., 1888-1892, A. B., 1892; Scholar in Philosophy, Cornell University, 1892-3; Student in Heidelberg, Berlin, and Strassburg Universities, one semester each, 1893-4; Fellow in Philosophy, Cornell University, 1894-5; Ph. D., Cornell University, 1895; LL. D., South Carolina College, 1905; Professor of Psychology and Education, State Normal School, Oshkosh, Wisconsin, 1895-7; Professor of Philosophy and Director of the Psychological Laboratories, University of Nebraska, 1897-1903; Professor of Educational Psychology, and Dean of the Teachers College, University of Missouri, 1903—.

EARLE RAYMOND HEDRICK, A. B., A. M., Ph. D.,

Professor of Mathematics.

A. B., University of Michigan, 1896; A. M., Harvard University, 1898; Student in Harvard University, 1897-1899 (in residence), and 1899-1901 (in absentia); Student at Goettingen, Germany, 1899-1901; Ph. D., Goettingen, 1901; Student at Ecole Normale, Superieure, Paris, second semester, 1901; Instructor in Mathematics, Sheffield Scientific School, Yale University, 1901-1903; Professor of Mathematics, University of Missouri, 1903—.

*ELMO GOLIGHTLY HARRIS, C. E.,

Professor of Civil Engineering.

C. E., University of Virginia, 1882; Practical Civil Engineer, 1882-91; Director of School of Mines, 1891-2; Professor of Civil Engineering (School of Mines), 1891-1901; Associate Professor of Civil Engineering, University of Pennsylvania, 1901-3; Professor of Civil Engineering, University of Missouri (School of Mines), 1903—.

MERRITT FINLEY MILLER, B. S., M. S. A.,

Professor of Agronomy, and Curator of Agricultural Museum.

B. S., Ohio State University, 1900; M. S. A., Cornell University, 1901; Assistant in Soil Survey, Bureau of Soils, U. S. Department of Agriculture, 1901-2; Instructor in Agronomy, Ohio State University, 1902-3; Assistant Professor of Agronomy, 1903-4; Professor of Agronomy, and Curator of Agricultural Museum, University of Missouri, 1904—.

FRANK PIERREPONT GRAVES, Ph. D., Litt. D., LL. D.,

Professor of the History and Principles of Education, and Director of the Daily Assembly.

A. B., Columbia University, 1890, A. M., 1891; Ph. D., Boston University, 1892; Litt. D., Heidelberg University (Ohio), 1897; LL. D., Hanover College, 1897; Studied at Harvard University, 1894, University of Chicago, summer of 1901, 1902-04, in Europe part of 1904; Instructor in Greek, Drisler School, 1889-90; Assistant in Greek, Columbia University, 1890-1; Assistant Professor of Greek, Tufts College, 1891-3; Professor of Classical Philology, 1893-6; President of the University of Wyoming, 1896-8; President of the University of Washington, 1898-1903; Assistant Dean of the Academic Department, 1905-06; Acting Dean of the Teachers College, 1906; Director of the Daily Assembly, 1906—; Professor of History and Principles of Education, University of Missouri, 1904—.

HERMANN BENJAMIN ALMSTEDT, B. L., Ph. D.,

Professor of Germanic Languages.

B. L., B. P., University of Missouri, 1895; Reader in German, University of Chicago, 1895-8, Assistant, 1898-1900, Ph. D., 1900, Associate, 1900-1; Dean in University College (College for Teachers), 1900-1; Studied in Germany, 1897; Student, University of Berlin, 1905-06; Assistant Professor of Germanic Languages, University of Missouri (in charge, 1902-3), 1901-05; Professor of Germanic Languages, 1905—.

OSCAR MILTON STEWART, Ph. B., Ph. D.,

Professor of Physics.

Ph. B., De Pauw University, 1892; Ph. D., Cornell University, 1897; Professor of Physics and Chemistry, Baker University, 1892-4; Fellow, Cornell University, 1895-6, Assistant in Physics, 1896-8, Instructor in Physics, 1898-1901; Assistant Professor of Physics, University of Missouri, 1901-05, Professor of Physics, 1905—.

NORMAN MACLAREN TRENHOLME, A. B., A. M., Ph. D.,

Professor of History.

A. B., McGill University, 1895, Graduate Student, 1895-6; Russell Scholar in History, Harvard University Graduate School, 1896-7; Thayer Scholar, 1897-8, A. M., 1897, Assistant in History, 1898-9, Ph. D., 1899; Non-Resident Graduate Student and Harris Fellow in History, studying in Europe, 1899-1900; Professor of History and English Literature, Western University (Can.), 1900-01; Instructor in History and Political Science, Pennsylvania State College, 1901-02; Assistant Professor (in charge) of History, University of Missouri, 1902-05, Professor of History, 1905—.

JUNIUS LATHROP MERIAM, A. B., A. M., Ph. D.,

Professor of Theory and Practice of Teaching.

A. B., Oberlin College, 1895; Student, New York State Normal College, 1897-8; Austin Scholar, Harvard University, 1901-2; A. M., Harvard University, 1902; Ph. D., Columbia University, 1905; Superintendent of Schools (Wakeman, Ohio), 1895-7; Principal of Elementary Schools (Akron, Ohio), 1898-9; Supervisor of Practice Teaching (New York State Normal College), 1899-1901; Assistant in Philosophy, Harvard University, 1902-3; Assistant in History of Education, Columbia University, 1903-4; Assistant Professor of Theory and Practice of Teaching, University of Missouri, 1904-05, Professor of Theory and Practice of Teaching, 1905—.

JOSEPH FRAZIER, Captain, Fourteenth United States Infantry,

Professor of Military Science and Tactics, and Commandant of Cadets.

Graduate Normal Department, Missouri State University, 1885; Graduate United States Military Academy, West Point, 1891; Graduate United States Infantry and Calvary School, Fort Leavenworth, Kansas, 1897; Second Lieutenant, Nineteenth United States Infantry, 1891; First Lieutenant, Ninth United States Infantry, 1898; Captain, Fourteenth United States Infantry, 1900; Expedition against Santiago de Cuba and occupation of city, 1898; Aide-de-camp to Brigadier General Ewers in Cuba, 1898-9; Philippine Campaign 1899-1901; Chinese Relief Expedition, 1900; Recommended for Medal of Honor and Brevet at Tien Tsin; Professor of Military Science and Tactics and Commandant of Cadets, by Special Orders of the War Department, University of Missouri, 1905—.

*JAMES CLARK DRAPER, B. S., E. M.,

Professor of Mining Engineering.

B. S., University of Missouri (School of Mines), 1901; E. M., 1903; Instructor in Shopwork and Drawing, 1901-2; Instructor in Mineralogy and Assaying, 1902-3; Assistant Professor of Mining Engineering, University of Missouri (School of Mines), 1903-06; Professor of Mining Engineering, 1906—.

SIDNEY CALVERT, B. Sc., A. M.,

Professor of Organic Chemistry.

B. Sc., McGill University, 1890; Graduate Student, Harvard University, 1890-4, A. M., 1892; Assistant in Chemistry, 1892-4, Private Research Assistant, 1892-4; Assistant in Chemistry, Harvard Summer School, 1894; Student, University of Freiburg, 1901-2; Assistant Professor of Chemistry, University of Missouri, 1894-1905, Assistant Professor of Organic Chemistry, 1905-06, Professor of Organic Chemistry, 1906—.

HENRY MARVIN BELDEN, A. B., Ph. D.,

Professor of English Language and Literature.

A. B., Trinity College, 1888; Instructor in English, Lehigh University, 1890-1; University of Nebraska, 1893-4; Student, University of Strassburg, 1894-5; Ph. D., Johns Hopkins University, 1895; Assistant Professor of English Language and Literature, University of Missouri, 1895-06; Professor of English Language and Literature, 1906—.

CLARENCE HENRY ECKLES, B. Agr., M. Sc.,

Professor of Dairy Husbandry.

B. Agr., Iowa Agricultural College, 1895, M. Sc., 1897; Student, University of Wisconsin, 1896; Instructor in Dairying, Iowa Agricultural College and Dairy Bacteriologist to the Iowa Experiment Station, 1896-1901; Instructor in Dairy Husbandry, Massachusetts Agricultural College, Short Course of 1898-99; Student, Universities of Goettingen and Berne, 1904-5; Assistant Professor (in charge) of Dairy Husbandry, University of Missouri, 1901-06, Professor of Dairy Husbandry, 1906—.

JONAS VILES, A. B., A. M., Ph. D.,

Professor of American History.

A. B., Harvard University, 1896, A. M., 1897; Teacher in Dalzell's School for Boys, Worcester, 1896-8; Ph. D., Harvard University, 1901; Studied in London, 1901-2; Instructor in History, University of Missouri, 1902-05; Assistant Professor of History, 1905-07, Professor of American History, 1907—.

*GEORGE ARTHUR PACKARD, S. B.,

Acting Professor of Metallurgy.

S. B., Massachusetts Institute of Technology, 1890; Superintendent, Elizabeth Mining Company, (Strafford, Vt.), 1891; with Commercial Mining Company (Prescott, Ariz.), 1892; in charge of Cyanide Plant of the Henderson Mountain Mining and Milling Company (Cooke City, Mont.), 1893; Assistant Superintendent, Des Loge Consolidated Lead Company, (Des Loge, Mo.), 1894; Consulting Metallurgist, American Cyanide Gold and Silver Recovery Company (Ariz.), 1896; Superintendent, Boston and Murcur Gold Mining Company (Murcur, Utah), 1897-98; Consulting Mining Engineer (Boston, Mass.), 1898; Acting Professor of Metallurgy, University of Missouri (School of Mines), 1907—.

ROBERT MONTGOMERY BIRD, A. B., B. S., Ph. D.,

Acting Professor of Agricultural Chemistry.

A. B., B. S., Hampden-Sidney College, 1897; Professor of Mathematics and Natural Science, Frederick College (Md.), 1898-9; Lecture Assistant, Johns Hopkins University, 1900-1, Ph. D., 1901; Acting Professor of Chemistry, Mississippi Agricultural and Mechanical College, 1901-2; Acting Professor of Agricultural Chemistry and Chemist to the Experiment Station, University of Missouri, 1902-3, Instructor in Agricultural Chemistry, 1903-05, Assistant Professor of Agricultural Chemistry, 1905-06, Acting Professor of Agricultural Chemistry, 1906—.

EVA JOHNSTON, A. M., Ph. D.,

Assistant Professor of Latin.

A. M., University of Missouri, 1895, Ph. D., University of Koenigsberg, 1905; Student, University of Missouri, 1892-96; University of Berlin and Heidelberg, 1899-1901; University of Koenigsberg, 1904-05; Assistant Professor of Latin, University of Missouri, 1899—.

WALTER SCOTT WILLIAMS, C. E.,

Assistant Professor of Topographic Engineering.

C. E., University of Missouri, 1885; Subdivision Engineer on Construction, Missouri Pacific Railway, 1886; Assistant Engineer on Location and Construction, K. C., F. S. & M. R. R., 1887-90; Chief Engineer on Location and Construction, Hearne & Brazos Valley R. R., 1891-2; Assistant Engineer with Mississippi River Commission, 1893-1901; Assistant Engineer in charge of Precise Levels, U. S. Lake Survey, 1901; Instructor in Civil Engineering, University of Missouri, 1901-3, Assistant Professor of Civil Engineering, 1903-4, Assistant Professor of Topographic Engineering, 1904—.

ABRAHAM LINCOLN HYDE, Ph. B.,

Assistant Professor of Bridge Engineering.

Ph. B., Yale University, 1886; Assistant Engineer, Berlin Iron Bridge Company, 1886-1891; Assistant Engineer, The King Bridge Company, 1891-92; Principal Assistant Engineer, The King Bridge Company, 1892-94; Principal Assistant Engineer, Frank C. Osborn, 1894; Junior Partner, The Osborn Company, Civil Engineers, 1894-6; Consulting Engineering, Cleveland, Ohio, 1896-1901; Official Photographer, American Bridge Company, 1901; Instructor in Civil Engineering, Lehigh University, 1902-3; Assistant Professor of Civil Engineering, University of Missouri, 1903-4, Assistant Professor of Bridge Engineering, 1904—.

ERNEST BROWNING FORBES, B. S.,

Assistant Professor of Animal Husbandry.

B. S., (Zoology), University of Illinois, 1897; Zoological Assistant, Illinois Biological Station, 1894-6; Assistant to the State Entomologist of Minnesota, 1897-8; Zoological Assistant, Illinois State Laboratory of Natural History, 1898; Acting State Entomologist of Minnesota, 1901; Assistant in Animal Husbandry, Illinois Experiment Station, 1901-2; B. S. (Agr.), University of Illinois, 1902; Instructor in Animal Husbandry, University of Illinois, 1902-3; Assistant Professor of Animal Husbandry, University of Missouri, 1903—.

WILLIAM JEPTHA CALVERT, A. B., M. D.,

Assistant Professor of Internal Medicine.

A. B., University of Kentucky, 1893; M. D., Johns Hopkins Medical School, 1898; 1st Lieutenant and Assistant Surgeon, U. S. Army, 1899-1902; in charge of the Laboratory of Board of Health, Manila, P. I., 1900-01; Lecturer on "Tropical Diseases," Washington University, St. Louis, 1902-03; Assistant Professor of Internal Medicine, University of Missouri, 1903—.

WINTERTON CONWAY CURTIS, A. B., A. M., Ph. D.,

Assistant Professor of Zoology.

A. B., Williams College, 1897, A. M., 1898, Assistant in Biology, 1897-8; Assistant in Biology, Johns Hopkins University, 1899-1900, Fellow, 1900-1, Ph. D., 1901; Instructor in Marine Biological Laboratory, Woods Hole, Mass., 1898-1903; Instructor in Zoology, University of Missouri, 1901-4, Assistant Professor of Zoology, University of Missouri, 1904—.

WILLIAM BAIRD ELKIN, A. B., Ph. D.,

Acting Assistant Professor (in charge) of Philosophy.

A. B., Manitoba University, 1889; Fellow in Philosophy, Cornell University, 1890-1; Acting Professor of Philosophy, Indiana University, 1891-2; Student, Cornell University, 1892-4, Ph. D., 1894; Acting Professor of Philosophy, Colgate University, 1894-5; Student in Europe, 1895-7; Lecturer on Theory and Practice of Teaching, Teachers College, Columbia University, 1897-9; Acting Professor of Psychology, Logic, and Pedagogics, Hamilton College, 1899-1901; Teacher of History and Civics, Kamehameha Schools, Honolulu, 1901-03; Acting Assistant Professor of Theory and Practice of Teaching, University of Missouri, 1903-04; Acting Assistant Professor of Philosophy, 1904-06.

*LEON STACY GRISWOLD, A. B.,

Assistant Professor of Geology and Mineralogy.

A. B., Harvard University, 1889; Assistant, Arkansas Geological Survey, 1889-91; Assistant, U. S. Geological Survey, 1893-4; Instructor in Geology, Harvard University, 1893-6; Engaged in Mining in Montana, 1896-1903; Instructor in Geology, University of Missouri (School of Mines), 1903-4; Assistant Professor of Geology and Mineralogy, (School of Mines), 1904—.

WALTER LAFAYETTE HOWARD, B. Agr., B. S., M. S.,

Assistant Professor of Horticulture.

B. Agr., B. S., University of Missouri, 1901, M. S., 1903, Assistant in Horticulture and Assistant Horticulturist to the Experiment Station (in charge of Station work, 1901-2), 1901-3; Student, Universities of Leipzig and Halle, 1905-06; Instructor in Horticulture, University of Missouri, 1903-4, Assistant Professor of Horticulture, 1905—.

CAROLINE TAYLOR STEWART, A. B., A. M., Ph. D.,

Assistant Professor of Germanic Languages.

A. B., Kansas University; A. M., University of Michigan, 1895; Student, Bryn Mawr College, 1895-6; Fellow in Germanics, 1897; National Association Collegiate Alumnae Fellow, 1898; Woman's Educational Association Special Fellowship, 1899; Ph. D., University of Berlin, 1901; Instructor in Germanic Languages, University of Missouri, 1902-05; Assistant Professor of Germanic Languages, 1905—.

JOHN SITES ANKENEY, JR.,

Assistant Professor (in charge) of Free Hand Drawing.

Student in Art School, New York, 1889, 1892; Paris, 1893, 1894, 1895, 1903-4, 1905 (five months); Harvard (summer), 1901; Supervisor of Drawing, Carthage (Mo.) Schools, 1896-8; Kansas City Schools, 1899-1901; Instructor (in charge) in Free Hand Drawing, University of Missouri, 1901-05; Assistant Professor (in charge) of Free Hand Drawing, 1905—.

HERMAN SCHLUNDT, B. S., M. S. Ph. D.,

Assistant Professor of Physical Chemistry.

B. S., University of Wisconsin, 1894, Assistant in Chemistry, 1894-6, M. S., 1896; Instructor in Physics and Chemistry, West Division High School, Milwaukee, Wis., 1896-9; Student, University of Leipzig, 1899-1900; Fellow in Chemistry, University of Wisconsin, 1900-1; Ph. D., 1901, Instructor in Chemistry, 1901-2; Instructor in Chemistry, University of Missouri, 1902-05, Assistant Professor of Physical Chemistry, 1905—.

JESSE HARLIAMAN COURSAULT, A. B., A. M., Ph. D.,

Assistant Professor of Philosophy of Education.

A. B., Ohio State University, 1893, Ph. D., Columbia University, 1907, A. M., 1898; Student, Harvard University, 1899-1900, A. M., 1900; Scholar, Columbia University, 1903-4, Fellow 1904-5; Teacher in Columbus (Ohio) High Schools, 1894-9, and 1900-03; Assistant Professor of Philosophy of Education, University of Missouri, 1905—.

OLIVER DIMON KELLOGG, A. B., A. M., Ph. D.,

Assistant Professor of Mathematics.

A. B., Princeton, 1899, A. M., 1900; Ph. D., Goettingen, 1902; J. S. K. Fellow in Mathematics, Princeton, 1899-1902; Instructor in Mathematics, Princeton, 1903-05; Assistant Professor of Mathematics, University of Missouri, 1905—.

*JOSEPH HENRY BOWEN,

Assistant Professor of Shopwork and Drawing.

Student, Miller School (Va.), 1890-5; Rhode Island School of Design, 1896-7; Instructor in Shopwork and Drawing, University of Missouri (School of Mines), 1902-06; Assistant Professor of Shopwork and Drawing (School of Mines), 1906—.

*LEON ELLIS GARRETT, B. S.,

Assistant Professor of Mathematics.

B. S., University of Missouri (School of Mines), 1901; Assistant in Mathematics, 1901-03, Instructor in Mathematics, University of Missouri (School of Mines), 1903-06; Assistant Professor of Mathematics, (School of Mines), 1906—.

FRANK GOSNEY NIFONG, M. D.,

Assistant Professor of Genito-Urinary Surgery, and Assistant to the Chair of Surgery.

M. D., Missouri Medical College, 1889; Intern, St. Louis City Hospital, 1889-91; Demonstrator of Anatomy, Missouri Medical College, 1891-3; Assistant Surgeon, St. Louis Mullanphy Hospital (Washington University), 1900-05; Assistant Professor of Genito-Urinary Surgery, and Assistant to the Chair of Surgery, University of Missouri, 1905—.

THOMAS JACOB RODHOUSE, B. S., M. C. E.,

Assistant Professor of Drawing.

B. S. in Civil Engineering, University of Missouri, 1897; Scholar, Cornell University, 1903-04; Fellow, 1904-05, M. C. E., 1905; Instructor in Drawing, University of Missouri, 1897-06; Assistant Professor of Drawing, 1906—.

EDNA D. DAY, B. S., M. S., Ph. D.,

Assistant Professor (in charge) of Home Economics.

B. S., University of Michigan, 1896, M. S., 1897; Student in Normal School (Oswego, N. Y.), 1898; Teacher of Science, Kent Place School for Girls (Summit, N. J.), 1898-99; Teacher of Science in High School and Supervisor of Nature Study in Grades, North Towanda, N. Y., 1899-1900; in charge of Departments of Chemistry, Biology, and Home Economics, Lake Erie College (Plainesville, Ohio), 1900-03; Teacher of Botany in Domestic Science Department, Chautauqua, N. Y., summers, 1899 to 1903; Student in Summer School of Applied Biology and Chemistry, Wesleyan University, 1902; Fellow in Botany, University of Illinois, 1903-04; Fellow in Household Administration, University of Chicago, 1904-06, Ph. D., 1906, Instructor in Household Administration, Summer of 1905; Assistant Professor (in charge) Home Economics, University of Missouri, 1906—.

WILLIAM NORTON DEY, B. A., M. A., Ph. D.,

Assistant Professor of Romance Languages.

B. A., and M. A., University of Virginia, 1902; Student in Paris, 1903; A. M., Harvard University, 1904; Austin Teaching Fellow in Romance Languages, 1905-06, Ph. D., 1906; Assistant Professor of Romance Languages, University of Missouri, 1906—.

MURRAY SHIPLEY WILDMAN, A. B., Ph. D.,

Assistant Professor (in charge) of Economics.

A. B., Earlham College, 1893; Teacher of History and Economics, Spiceland Academy and Normal School, 1893-5; Cashier of the Henry County Bank, Spiceland, Indiana, 1895-7; Vice-President, 1897-1901; Superintendent of Spiceland Academy and Normal School, 1898-1901; Graduate Student, University of Chicago, 1901-04, Fellow in Political Economy, 1902-04, Ph. D., 1904; Professor of History and Economics, Central College, 1904-05; Instructor in Economics, University of Missouri, 1905-06; Assistant Professor (in charge) of Economics, 1906—.

ARTHUR LORD WESTCOTT, B. M. E., M. E.,

Assistant Professor of Experimental Engineering.

B. M. E., Purdue University, 1892, M. E., 1906, Instructor in Shop Work, 1892-93; Instructor in Mechanical Engineering, Michigan Agricultural College, 1893-99; Professor of Mechanical Engineering, University of Montana, 1899-1903; Mechanical Engineer, with The Browning Engineering Company, Cleveland, Ohio, 1903-05; Assistant Professor of Mechanical Engineering, Case School of Applied Science, 1905-06; Assistant Professor of Experimental Engineering, University of Missouri, 1906—.

†ROSCOE HART SHAW, B. S.,

Assistant Professor of Dairy Husbandry.

B. S., New Hampshire College, 1897; Diploma, Eidgenn, Polytechnikum of Switzerland, Zurich, 1897-9; Assistant Chemist New Hampshire Experiment Station, 1899-1900; Assistant and Instructor in Chemistry, University of Wisconsin, 1900-02; Summer, 1902, Bureau of Soils, U. S. Department of Agriculture; October, 1902 to January, 1906, Assistant Chemist, Kansas Experiment Station; January, 1906 to July, 1906, Assistant Professor of Agricultural Chemistry, University of Nebraska; Assistant Professor of Dairy Husbandry, University of Missouri, 1906—.

LELAND EMERSON BRISTOL, A. B., LL. B.,

Assistant Professor of Law.

A. B., Harvard University, 1898, LL. B., 1901; Practiced Law, 1903-04; Post-Graduate Law Student, Harvard University, 1904-05; Assistant Professor of Law, University of Missouri, 1906-07.

LEWIS DARWIN AMES, A. B., A. M., Ph. D.,

Assistant Professor of Mathematics.

B. L., University of Missouri, 1899; A. B., Harvard University, 1901, A. M., 1902, Ph. D., 1904; Instructor in Mathematics, Chillicothe Normal School, 1890-1900; Instructor in Mathematics, Harvard University, 1901-2; Instructor in Mathematics, University of Missouri, 1903-6; Assistant Professor of Mathematics, 1906—.

HENRY LAMAR CROSBY, A. B., A. M., Ph. D.,

Assistant Professor of Greek.

B. A., University of Texas, 1901, M. A., 1902, Fellow in Greek and Latin, 1901-02; A. M., Harvard University, 1903, Ph. D., 1905; Instructor in Greek, University of Pennsylvania, 1905-06; Assistant Professor of Greek, University of Missouri, 1906—.

†In the service of the U. S. Government.

ALAN ESTIS FLOWERS, M. E.,

Assistant Professor of Electrical Engineering.

University Scholar, Cornell University, 1898-1900; M. E., Cornell University, 1902; Construction Department, Westinghouse Electric and Manufacturing Company, 1902-03; Engineering Apprentice, Westinghouse Electric and Manufacturing Company, 1904; Instructor in Electrical Engineering, University of Missouri, 1904-6; Assistant Professor of Electrical Engineering, 1906—.

PERCY BORDWELL, B. L., LL. B.,

Assistant Professor of Law.

B. L., University of California, 1898; Student in Public Law, Columbia University, 1898-1901, Schiff Fellow in International Law, 1900-01, Student in Law School, 1901-04, LL. B., 1904; Practiced Law, 1904-06; Assistant Professor of Law, University of Missouri, 1906-07.

WILLIAM ALVIN MILLER, B. S..

Assistant Professor of Railway Engineering.

B. S., in Civil Engineering, University of Missouri, 1897; Rodman, U. S. Deep Waterway Survey, 1897-98, Chief of Party, 1898-99; Transitman, B. & O. S. W. R. R., 1899-1901; Resident Engineer, Choc., Okla., & Gulf R. R., 1901-02; Assistant in Engineering Corps, B. & O. S. W. R. R., 1902-03; Assistant Division Engineer, (Chicago, Illinois), 1903-06; Assistant Professor of Railway Engineering, University of Missouri, 1906—.

*ROBERT CLAIR THOMPSON, B. S., M. S.,

Assistant Professor of Chemistry.

Graduate of Clarion (Pa.) State Normal School, 1896; B. S., Westminster College, Pa., 1901; Student, University of Missouri, 1901; Teacher of Chemistry and Biology, High School, Mexico, Mo., 1902; M. S., School of Mines, 1904; Instructor in Chemistry, University of Missouri (School of Mines), 1902-06; Assistant Professor of Chemistry, (School of Mines), 1906—.

ARTHUR HENRY ROLPH FAIRCHILD, A. B., A. M., Ph. D.,

Assistant Professor of English.

A. B., University of Toronto, 1900; Teaching Fellow, University of Wisconsin, 1900-1; Scholar, Yale University, 1901-2-3; A. M., Yale University, 1903; Fellow, Yale University, 1903-4, Ph. D., 1904; Instructor in English, University of Missouri, 1904-06, Assistant Professor of English, 1906—.

MILLARD LEWIS LIPSCOMB, A. M.,

Editor of the University Catalogue, and Chairman of the Committee on Student Affairs.

A. M., Bethany College (West Va.); Instructor in William and Mary College, 1874-5; Professor of Physical Science, South Kentucky College, 1879-89; Student, Chicago University, Summer 1902; Professor of Physics, University of Missouri, 1889-1905. Editor of the University Catalogue, and Chairman of Committee on Student Affairs, 1903—.

MARY BIRDWELL BREED, A. B., A. M., Ph. D.,

Adviser of Women, and Head of Read Hall.

A. B., Bryn Mawr College, 1894, A. M., 1895, Assistant in the Chemical Laboratory, and Graduate Scholar, 1894-5; Student, University of Heidelberg, 1895-96, (Bryn Mawr European Fellow); Head of the Scientific Department, Pennsylvania College for Women, 1897-99; Fellow by Courtesy, Bryn Mawr College, 1901; Dean for Women, Indiana University, 1901-06; Adviser of Women, and Head of Read Hall, University of Missouri, 1906.

HENRY ORMAL SEVERANCE, B. Pd., A. B., A. M.,

Librarian.

B. Pd., Michigan Normal College, 1894; A. B., University of Michigan, 1897, A. M., 1899, Assistant, General Library, 1899-1906; Librarian, University of Missouri, 1907—.

INSTRUCTORS.

*PAUL JULIUS WILKINS, B. S.,

Instructor in Modern Languages.

B. S., Michigan Agricultural and Mechanical College, 1896; Instructor in University of Missouri (School of Mines), 1887—.

*JOHN BENNETT SCOTT,

Instructor in English.

Instructor in English, University of Missouri (School of Mines), 1897—.

WILLIAM HUTCHINSON COOK,

Instructor (in charge) in Manual Training and Shopwork.

Teacher, Public Schools, Michigan, 1887-9, 1892-4; Student, State Normal School, Michigan, 1889-90; Mechanic and Superintendent in various factories and machine-works, 1894-1901; Student, Teachers College, Columbia University, 1901-2; Instructor in Manual Training and Shopwork, University of Missouri, 1902—.

FLOYD WILKINS TUTTLE, A. B.,

Instructor in Physical Training.

Student Assistant in Gymnasium, University of Missouri, 1900-2; A. B., 1902; Graduate Chatauqua School of Physical Education, 1902; Instructor in Physical Training, University of Missouri, 1902—.

GRACE SARA WILLIAMS, A. B.,

Instructor in Romance Languages.

A. B., Knox College, 1897; Student, Columbia University, 1898-9; Sorbonne College de France, Ecole des Chartes, Ecole Pratique des Hautes Etudes, 1899-1900; Instituti di Studi Superiori, Florence (winter semester), 1900-1; Rome, Madrid, 1901; Holder of the European Fellowship of the Women's Educational Association of Boston, 1900-1; Eleve Titulaire de l'Ecole Pratique des Hautes Etudes (Section des Sciences Historiques et Philologiques), Paris, 1901; Student, University of Paris, 1905-6; Instructor in Romance Languages, University of Missouri 1902—.

ELEXIOUS THOMPSON BELL, B. S., M. D.,

Instructor in Anatomy.

B. S., University of Missouri, 1901, M. D., 1903; Fellow in Anatomy, 1901-2; Assistant in Anatomy, 1902-3; Instructor (in charge) in Anatomy, 1903-4; Student, University of Bonn, 1905-06; Instructor in Anatomy, University of Missouri, 1903—.

CHARLES ALBERT PROCTOR, A. B.,

Instructor in Physics.

A. B., Dartmouth College, 1900; Assistant in Physics, Dartmouth, 1900-1; Non-resident Fellow of Dartmouth, studying at University of Chicago, 1901-2; Fellow and Assistant in Physics, University of Chicago, 1902-3; Instructor in Physics, University of Missouri, 1903—.

‡WILLIAM GARRETSON CARHART, A. B., M. D.,

Instructor in Pathology and Bacteriology.

A. B., University of Michigan, 1903; M. D., 1904; Student Assistant in Bacteriology, 1902-3; Assistant in Pathology Summer School, 1904; Instructor in Pathology and Bacteriology, University of Missouri, 1904—.

HERBERT MEREDITH REESE, A. B., Ph. D.,

Instructor in Physics.

A. B., Johns Hopkins University, 1897; Fellow in Physics, Johns Hopkins University, 1899-1900; Ph. D., 1900; Fellow in Astronomy, Lick Observatory, University of California, 1900-1; Assistant, Lick Observatory, 1901-3; Assistant, Yerkes Observatory, University of Chicago, 1903-4; Instructor in Physics, University of Missouri, 1904—.

JOSEPH DOLIVER ELLIFF, A. B.,

Inspector of Accredited Schools, and Instructor in School Administration.

Graduate, Warrensburg State Normal School, 1893; Principal Central High School, Carthage, Missouri, 1893-4; Principal Joplin (Missouri) High School, 1894-7; Superintendent Joplin Public Schools, 1897-1902; A. B., University of Missouri, 1903; Acting Superintendent of St. Joseph, Missouri, Public Schools, 1903-4; Instructor in School Administration and Inspector of Accredited Schools, University of Missouri, 1904—.

‡Resigned.

†ALBERT GRANBERRY REED, A. B., A. M.,

Instructor in English.

A. B. Vanderbilt University, 1895; Student, Yale University, 1896-7, A. M., 1897; Scholar in English, Columbia University, 1897-8; Student, Columbia University and University of Chicago, Summers of 1901-4; Fellow in English, University of Chicago, 1904-5; Professor of English and Philosophy, Baker University, 1898-9; Professor of English and History, Austin College, 1899-1900; Professor of English Language and Literature, Hendrix College, 1900-1; Instructor in English, University of Texas, 1901-4; Instructor in English, University of Missouri, 1904—.

JOHN BLAKESLEE TIFFANY, B. S., D. V. M.,

Instructor in Veterinary Science.

B. S. A., Cornell University, 1901; D. V. M., Cornell University, 1902-4; Assistant in Veterinary Anatomy, Cornell University, 1902-4; Acting Assistant Professor (in charge) of Veterinary Science, University of Missouri, 1904-5; Instructor in Veterinary Science, 1905—.

†LOUIS INGOLD, A. B., A. M.,

Instructor in Mathematics.

Student Assistant in Mathematics, University of Missouri, 1900-1; A. B., 1901; Teaching Fellow in Mathematics, 1901-2; A. M., 1902; Student, University of Chicago, 1902, and 1905—; Acting Assistant Professor of Mathematics, University of Missouri, 1902-3; Assistant in Mathematics, 1903-05; Instructor in Mathematics, 1905—.

HOMER LEROY SHANTZ, B. Sc., Ph. D.,

Instructor in Botany.

B. Sc., Colorado College, 1901; Instructor in Biology, 1901-2, Instructor in charge of Department of Biology, 1902-3; Fellow in Botany, University of Nebraska, 1903-5; Instructor in Botany, University of Nebraska School of Agriculture, 1903-5; Ph. D., University of Nebraska, 1905; Acting Instructor in Botany, University of Missouri, 1905-06; Instructor in Botany, 1906-07.

CAROLINE McGILL, A. B., A. M.,

Acting Instructor in Anatomy.

A. B., University of Missouri, 1904, A. M., 1905; Fellow in Zoology, 1904-5; Acting Instructor in Anatomy, 1905-06.

†CARL CONRAD ECKHARDT, Ph. B., M. A.,

Instructor in History.

Ph. B., Ohio State University, 1902; Assistant in History, University of Michigan, 1902-3; M. A., University of Michigan, 1904; Student, Cornell University, Summer, 1905; Assistant in History, University of Missouri, 1903-05; Instructor in History, 1905—.

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†On leave of absence, session, 1906-07.

HOWARD VERNON CANTER, A. B., Ph. D.,

Instructor in Latin.

A. B., Washington and Lee University, 1896; Associate and Acting Principal, Lexington (Virginia), Public Schools, and High School, Instructor in Latin, French and German, 1895-8; Fellow in Latin, Johns Hopkins University, 1900, Ph. D., 1904, Fellow by Courtesy, 1904-5; Professor of Latin and Greek, Notre Dame of Maryland, 1902-4; Classical Master, University School, Baltimore, Maryland, 1904-5; Instructor in Latin, University of Missouri, 1905—.

WILHELMUS DAVID ALLEN WESTFALL, A. B., Ph. D.,

Instructor in Mathematics.

A. B., Yale College, 1901; Douglas Fellow and Graduate, Student in Yale University, 1901-2; Acting Instructor in Mathematics in Yale College, 1902-03; Student at Goettingen, Germany, 1903-05; Ph. D., Goettingen, 1905; Instructor in Mathematics, University of Missouri, 1905—.

FRITZ KRULL,

Instructor in Music.

Studied in Europe, 1894 to 1901, and 1904; Koenigliche Hochschule fuer Musik; Berliner Kapellmeister Schule; Klindworth-Scharwenka Conservatorium; Studied Vocal Culture with Franz Betz of Bayreuth; Richard Schurz-Weida, Berlin, and with Hermann Bucholz, Berlin; Sang in Grand and Comic Opera in Berlin, St. Petersburg, Koenigsberg, Breman, Odessa and Moscow; Instructor in Music University of Missouri, 1905—.

ROBERT LACEY BORGER, A. B., A. M.,

Instructor in Mathematics.

A. B., University of Florida, 1893; Instructor in Mathematics, Southern Collegiate Institute, Albion, Illinois, 1893-4; Graduate Student, Johns Hopkins University, 1894-5; Assistant Professor of Mathematics, University of Florida, 1896-98; Professor of Mathematics, 1898-1904; Graduate Student, University of Chicago, Summer Quarters, 1898, '99, 1900, '01, '02, and the year 1904-05; A. M., 1905; Instructor in Mathematics, University of Missouri, 1905—.

ARTHUR ELLIOTT GRANTHAM, A. B., B. S. A.,

Instructor in Agronomy.

A. B., University of Indiana, 1903; B. S. A., University of Missouri, 1905; Assistant Principal, Stockwell (Indiana) High School, 1900-01, 1902-03; Student, College of Agriculture, University of Illinois, 1904; Assistant in Agriculture, Experiment Station, University of Missouri, 1904-05; Instructor in Agronomy, 1905—.

MARION SCHIRLEY BOWEN,

Instructor in Shopwork.

Graduate, Miller School (Virginia), 1902; Assistant Instructor in Shopwork, Miller School, 1901-2; Machinist, Providence Engineering Works, 1902; Machinist and Draughtsman, Brown & Sharpe, 1902-4; Assistant in Shopwork, University of Missouri, 1904-05; Instructor in Shopwork, 1905—.

*ELWYN LORENZO CLARK, B. S.,

Instructor in Civil Engineering.

B. S., University of Illinois, 1902; Assistant Engineer, D. L. & W. R. R., Newark, N. J., 1902-05; Resident Engineer, C., C. & St. L. R. R., Lawrenceville, Illinois, 1905; Instructor in Civil Engineering, University of Missouri (School of Mines), 1905—.

EDWIN ALLAN FESSENDEN, B. S. in M. E.,

Instructor in Mechanical Engineering.

B. S. in M. E., University of Missouri, 1904; Draughtsman, American Brake Co. (Westinghouse), St. Louis, Summer of 1901-02; Assistant Mechanical Engineer, National Candy Co., St. Louis Office, 1903; Chief Draughtsman Aetna Foundry and Machine Co., Springfield, Illinois, 1904-05; Instructor in Mechanical Engineering, University of Missouri, 1905—.

THOMAS JAMES RILEY, A. B., A. M., Ph. D.,

Instructor in Sociology.

A. B., Baker University, 1900, A. M., 1903; Ph. D., University of Chicago, 1900, Fellow in Sociology, 1900-01, 1902-04; Professor and Acting Head of the Department of Mathematics, Baker University, 1901-02; Professor and Head of the Department of Mathematics, Western State Normal School, Kalamazoo, Michigan, 1904-06; Director, St. Louis School of Philanthropy, 1906—; Instructor in Sociology, University of Missouri, 1906—.

WILLIAM JAMES MONILAW, M. D.,

Instructor in Athletics.

M. D., Drake University, 1903; Student, Institute and Training School of Y. M. C. A., Summer Session, Lake Geneva, Wisconsin, 1898-1900; Director, Physical Culture and Athletics, Drake University, 1897-1906; Demonstrator, Histology and Bacteriology, 1903-04; Professor of Massage, and Instructor in Baseball and Athletics, Institute and Training School of Y. M. C. A., Summer Session, Lake Geneva, Wisconsin, 1905—; Instructor in Athletics, University of Missouri, 1906—.

FLORENCE DELIA ALDEN, A. B.,

Instructor in Athletics in Women's Gymnasium.

A. B., Smith College, 1904; Graduate, Boston Normal School of Gymnastics, 1906; Student, Gilbert's Summer School, 1906; Instructor in Athletics in Women's Gymnasium University of Missouri, 1906—.

JAMES WILLIAM PUTNAM, Ph. B., A. M.,

Instructor in Political Science and Economics.

Ph. B., Illinois College, 1894; Graduate Student, University of Chicago, 1895, and Summer Quarters, 1900, 1901, 1903; Instructor in History and Political Science, Illinois College, 1894-98, Assistant Professor (in charge) of History and Economics, 1898-1902; Fellow, Cornell University, 1902-03, A. M., 1903; Assistant and Graduate Student, University of Wisconsin, 1903-04; Instructor in Economics and Administration, Northwestern University, 1904-06; instructor in Political Science and Economics, University of Missouri, 1906-07.

SAMUEL DAVID GROMER, S. B., Pe. B., A. M.,

Instructor in History and Economics.

S. B., Pe. B., University of Missouri, 1889; Superintendent of Schools, Ipswich, South Dakota, 1889-91; State Institute Conductor, South Dakota, 1890-91; Instructor in History, Political Science and Economics, Stanberry Normal, 1891-96, 1897-1904; Commissioner of Schools, Gentry County 1893-97; Graduate Student, University of Chicago, 1896; Student, Chautauqua College of Liberal Arts, 1897-98; A. M., Harvard University, 1905; Studied at Columbia University, completed residence requirements for Ph. D., 1905-06; Instructor in History, College of the City of New York, 1906; Instructor in History and Economics, University of Missouri, 1906-07.

CLARENCE CORY CRAWFORD, A. B., A. M., Ph. D.,

Instructor in History.

A. B., University of Kansas, 1903, A. M., 1904; Instructor in History and Civics, Lawrence High School, Kansas, 1903-04; Assistant in History, University of Wisconsin, 1904-06; Ph. D., University of Wisconsin, 1906; Instructor in History, University of Missouri, 1906-07.

MARLOW ALEXANDER SHAW, A. B., Ph. D.,

Instructor in English.

A. B., University of Toronto, 1896, Fellow, 1897-8; Student, Knox College, Toronto, 1898-1900; Fellow, University of Wisconsin, 1900-01; Scholar, Harvard University, 1901-03, Ph. D., 1903; Principal, Elementary Schools, Waubaushene, Ontario, 1889-91; Teacher, High School, Toronto, 1904; Assistant in English, University of Missouri, 1905-06, Instructor in English, 1906-07.

ROY EVERETT SPENCER, A. B.,

Acting Instructor in English.

A. B., University of Michigan, 1906; Graduate, Michigan State Normal College, 1902, Graduate Student, 1902-03; Acting Instructor in English, University of Missouri, 1906-07.

HOWARD DOTY CARPENTER, A. B., A. M.,

Instructor in Electrical Engineering.

A. B., Princeton University, 1895, A. M., 1896, Fellow in Experimental Science, 1895-96; Professor of Physics and Chemistry, Park College, 1897-98; Student, Vanderbilt University, and University of Chicago, 1899-1900; Professor of Physics and Chemistry, Central University of Kentucky, 1900-01; Engineering Apprentice and Testing Engineer, Stanley Electric Manufacturing Company, 1902-5; Instructor in Electrical Engineering, University of Maine, 1905-06; Instructor in Electrical Engineering, University of Missouri, 1906-07.

CHARLES OTTO COLLETT, Dipl. Ing.,

Instructor in Electrical Engineering.

Koniglich Technische Hochschule zu Hannover, 1898-1901; Assistant, Oberingingieur, Neurode in Schlesien, 1901-02; Diplom-Inginieur, Kingl Technische Hochschule zu Hannover, 1905; Engineering Apprentice, Westinghouse Electric and Manufacturing Company, 1905-06; Instructor in Electrical Engineering, University of Missouri, 1906-07.

*EDWARD STAPLES SMITH, M. E.,

Instructor in Drawing.

Graduate, Miller School; M. E., Brown University, 1904; Draftsman, Bucyrus Company, and Allis Chalmers Company (Milwaukee, Wis.); Instructor in Drawing, University of Missouri (School of Mines), 1906—.

HARRY SELWYN WAYMAN, B. S.,

Instructor in Dairying.

B. S. in Agriculture, University of Missouri, 1906, Instructor in Dairying, 1906—.

AUSTIN HUBBARD WELCH, B. S.,

Instructor in Mechanical Drawing.

B. S. in M. E., University of Missouri, 1904, Assistant in Mechanical Drawing, University of Missouri, 1905-06; Instructor in Mechanical Drawing, 1906—.

ASSISTANTS.

†ERNEST HOWARD FAVOR, A. B.,

Assistant Horticulturist to the Experiment Station.

A. B., University of Missouri, 1902; Assistant in Botany, 1902-3; Assistant Horticulturist to the Experiment Station, 1903—.

MARY SHORE WALKER, A. B., A. M.,

Assistant in Mathematics.

A. B., University of Missouri, 1903, A. M., 1904; Assistant in Mathematics, University of Missouri, 1904—.

†On leave of absence, session 1906-70.

ERNEST EARL MORLAN, A. B., A. M.,

Assistant in Chemistry.

Student Assistant in Physics, University of Missouri, Summer of 1900; A. B., University of Missouri, 1902; Graduate Student, Columbia University, 1902-3; A. M., 1903; Instructor in Chemistry and Physics, Kansas City (Kansas) High School, 1903-4; Assistant in Chemistry, University of Missouri, 1904—.

STANLEY SISSON, B. S.,

Assistant in Experimental Psychology.

B. S., in Education, University of Missouri, 1905; Assistant in Experimental Psychology, 1905—.

JAMES ROY WHARTON, B. S.,

Assistant in Mechanical Engineering.

B. S. in Mechanical Engineering, University of Missouri, 1905, Assistant in Mechanical Engineering, 1905—.

ERNEST VANCOURT VAUGHN, B. L., A. M.,

Assistant in History.

B. L., University of Missouri, 1900, A. M., 1904, Teaching Fellow in English, 1900-01; Instructor in History, Columbia High School, 1901-03; Superintendent of Schools, Milan, Missouri, 1904-05; Assistant in History, Kirksville Normal, Summer Quarter, 1905; Assistant in History, University of Missouri, 1905-07.

GEORGE WASHINGTON TANNREUTHER, A. B., A. M.,

Assistant in Zoology.

A. B., Manchester College, 1900; A. M., Antioch College, 1901; Graduate Student, University of Chicago, 1901-05, Laboratory Assistant in Zoology, 1904, Fellow in Zoology, 1904-05; Assistant in Zoology, University of Missouri, 1905—.

BAYARD FRANKLIN FLOYD, A. B.,

Assistant in Botany.

A. B., University of Indiana, 1905; Assistant in Histology and Anatomy, 1903-05; Assistant in Botany, University of Missouri, 1905-07.

JAMES O'NEILL BARNWELL,

Assistant in Shopwork.

Assistant in Shopwork, University of Missouri, 1905-07.

FRANK WRIGHT LIEPSNER, B. S.,

Assistant in Chemistry.

B. S., in Chemical Engineering, University of Missouri, 1905; Chemist at Atlas Portland Cement Co., Hannibal, Missouri, June, 1905, to November, 1905; Assistant in Agricultural Chemistry, University of Missouri, 1905-06; Assistant in Chemistry, 1906-07.

GRACE LEFLER, B. L. S.,

Assistant in General Library in Charge of Catalogue.

B. L. S., University of Illinois Library School, 1903; Assistant Cataloguer, Library, University of Missouri, 1904-05; in Charge of Office, July, 1906 to December, 1906; Assistant in General Library in Charge of Catalogue, 1905—.

WILLIAM KERLIN SEITZ, B. S.,

Assistant in Surveying.

B. S. in C. E., University of Missouri, 1906; Assistant in Surveying, University of Missouri, 1905-07.

EARL LOCKRIDGE BRADSHER, A. B., A. M.,

Assistant in English.

A. B., University of Missouri, 1903; A. M., Columbia University, 1904; Student Assistant in English, University of Missouri 1902-03; Student, Columbia University, 1903-06; Assistant in English, University of Missouri, 1906-07.

REYNOLDS FLETCHER JARVIS,

Assistant in Shopwork.

Assistant in Shopwork, University of Missouri, 1906-07.

ELI STUART HAYNES, A. B.,

Gould Assistant in Astronomy.

A. B., University of Missouri, 1905; Assistant in Mathematics, 1905-06; Gould Assistant in Astronomy, 1906-07.

CARTER ALEXANDER, B. S., A. B.,

Assistant in School Administration, and Principal of the Teachers College High School.

B. S., University of Missouri, 1905, A. B., 1906; Teacher in rural schools, 1899-1901; Superintendent of Schools, Shelbyville, Missouri, 1902-05; Assistant in School Administration, and Principal of Teachers College High School, University of Missouri, 1906-07.

HOLLIS HENDRIX THURSTON, B. L., A. M.,

Assistant Principal of Teachers College High School.

B. L., University of Missouri, 1900, A. M., 1906; Assistant Principal of Teachers College High School, University of Missouri, 1906-07.

HARLEY EARL HOWE, B. S.,

Assistant in Physics.

B. S., in Education, University of Missouri, 1906, Student Assistant in Physics, 1905-06, Assistant in Physics, University of Missouri, 1906—.

JOSEPH S. SUMMERS, A. B., A. M.,

Analyst in Physiology.

A. B., William Jewell College, 1900; A. M., University of Missouri, 1901, Fellow in Physics, 1901-02; Principal, High School, Trenton, Missouri, 1902-03; Instructor in Physics, University of Missouri, 1903-04; Assistant, U. S. Bureau of Fisheries, 1906; Analyst in Physiology, University of Missouri, 1906-07.

LEONARD HASEMAN, A. B.,

Assistant in Entomology.

A. B., University of Indiana, 1905; Assistant in Entomology, University of Florida, 1905-06; Assistant in Entomology, University of Missouri, 1906—.

†EDWIN LEROY DRIGGS, B. S.,

Assistant in Civil Engineering.

B. S. in Civil Engineering, University of Missouri, 1906, Assistant in Civil Engineerng, University of Missouri, 1906-07.

WILLIAM HENRY CHANDLER, B. S., M. S.,

Assistant in Horticulture.

B. S., University of Missouri, 1905, Fellow in Horticulture, 1905-06; Assistant in Horticulture, University of Missouri, 1906—.

LUCIUS FRANKLIN CHILDERS, B. S.,

Assistant in Agronomy.

B. S. in Agriculture, University of Missouri, 1906; Student Assistant in Plant Physiology, Bureau of Plant Industry, U. S. Department of Agriculture, 1904-05; Special Agent, Bureau of Plant Industry, U. S. Department of Agriculture, 1905-06; Statistician, State Board of Agriculture, 1906; Assistant in Agronomy, University of Missouri, 1906—.

GRACE DARLING PHILLIPS, B. L. S.,

Assistant in General Library, in charge of Periodical Room.

B. L. S., University of Illinois Library School, 1905; Assistant Librarian, Charleston Normal School 1905-06; Assistant in General Library in Charge of Periodical Room, University of Missouri, 1906—.

EDWIN A. TROWBRIDGE, B. S. A.,

Assistant in Animal Husbandry.

B. S. A., University of Wisconsin, 1906; Assistant in Animal Husbandry, University of Missouri, 1906—.

FREDERICK VALENTINE EMERSON, A. B.,

Assistant in Geology.

A. B., Colgate University, 1898; Assistant in Geology, Cornell University, 1903-04; Scholar, Harvard University, 1904-05; Fellow, University of Chicago, 1905-06; Assistant in Geology, University of Missouri, 1906—.

†Resigned.

ERNEST HORN,

Principal of Teachers College Elementary School.

Principal of Teachers College Elementary School, 1906-07.

WALKER S. PEMBERTON, B. S.,

Assistant in Mathematics.

B. S. in Education, University of Missouri, 1906; Assistant in Mathematics, 1906-07.

PETER THOMPSON HEDGES, B. S.,

Assistant in Mathematics.

B. S., Chillicothe Normal, 1899; Principal, Williamstown High School, 1899-1902, and 1904-06; President Goein Academy, 1902-04; Assistant in Mathematics, University of Missouri, 1906-07.

DOUGLAS WORTHINGTON SWIGGETT, A. B.,

Assistant in English.

A. B., Howard University, 1906; Teacher in High School, Marietta, Ohio, 1905-06; Assistant in English, University of Missouri, 1906-07.

EDITH PARKER,

Assistant in Manual Training.

Teacher in the Public Schools of Missouri, 1899-1904; Teacher of Manual Training Summer of 1904, Kirksville Normal; 1904-05, William Woods College; Summer, 1906, University of Missouri, Assistant in Manual Training, 1906-07.

WILLIAM WESTLEY EDWARDS, B. S.,

Assistant in Mechanical Drawing.

B. S. in Mechanical Engineering, Case School of Applied Science, 1906; Assistant in Mechanical Drawing, University of Missouri, 1906-07.

RAY CLAUDE DONEGHUE, B. S.,

Assistant in Agronomy.

B. S., Ohio State University, 1906; Assistant in Soil Survey, University of Illinois Agricultural Experiment Station, 1906; Assistant in Agronomy, University of Missouri, 1906—.

†ALBERT EDWARD PERKINS, B. S.,

Assistant of Dairy Husbandry.

B. S., Syracuse University, 1906; Assistant Chemist Halcomb Steel Company, Syracuse, October 1906 to January 1907; Assistant Dairy Husbandry, University of Missouri, 1907—.

†FRANKLIN GEORGE KING,

Assistant in Animal Husbandry.

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†In the Service of the U. S. Government.

STUDENT ASSISTANTS.

*ANDREW JACKSON SELTZER,
Student Assistant in Metallurgy.

*ALBERT BABBIT BARTLETT,
Student Assistant in Surveying.

*FREDERICK ARNOLD MOORE,
Student Assistant in Chemistry.

*FRANK LEWIS LEONARD WILSON,
Student Assistant in Mineralogy.

FRANCIS JAMES BULLIVANT,
Students Assistant in Physics.

AXEL ISADORE ANDERSON, A. B.,
Student Assistant in Men's Gymnasium.

RUDOLPH EUGENE BURGER,
Problem Reader in Chemistry.

WALTER EDWARD DANDY,
Student Assistant in Anatomy.

CLAUD BARTON HUTCHISON,
Student Assistant in Botany.

CHARLES WADE SIMISON,
Intern at Hospital.

BERT HOGAN,
Student Assistant in Zoology.

CHARLES WILLIAM SEIBEL,
Problem Reader in Mechanics.

LOUIS HARRY WINKLER,
Student Assistant in Physics.

*WILLIAM CRUTCHER PERKINS,
Student Assistant in Surveying.

*IRA LEE WRIGHT,
Student Assistant in Surveying.

*EDWIN RICHARD WASH,
Student Assistant in Assaying.

*CLYDE REX WOOD,
Student Assistant in Drawing.

*EDWARD PHILLIP BARRETT,
Student Assistant in Chemical Laboratory.

*THOMAS GRANT COOKE,
Student Assistant in Chemical Laboratory.

*ELDON EVERETT COOK,
Student Assistant in Physics.

*HORACE THORP MANN,
Student Assistant in Chemical Laboratory.

KATHERINE HELM,
Student Assistant in Womens' Gymnasium.

LAKE BREWER,
Student Assistant in Physiology.

JOHN WILLIAM READ,
Student Assistant in Chemistry.

RUTH OLIVE COVINGTON,
Problem Reader in Mathematics.

EULA A. MEEKS,
Problem Reader in Mathematics.

MELVIN ERNEST SHERWIN,
Student Assistant in Agronomy.

‡ARTHUR ALLAN SNEED,
Student Assistant in Physiology.

ROBERT FRANCIS HOWARD,
Student Assistant in Horticulture.

JOHN BENJAMIN HILL,
Student Assistant in Horticulture.

LUTHER S. JAMES,
Student Intern at Hospital.

MARION SYLVESTER DOOLEY,
Student Assistant in Physiology.

ALBERT HOWARD BAUGHER,
Student Assistant in Physiology.

‡Died March 5, 1907.

OTHER OFFICERS.

J. G. BABB, A. B., A. M., LL. B.,
Secretary of the University.
A. B., University of Missouri, 1877, LL. B., 1881, A. M., 1890, Secretary of the University, 1889—.

R. B. PRICE, M. S.,
Treasurer.
M. S. (Hon.), University of Missouri, 1873; President Boone County National Bank.

IRVIN SWITZLER,
Registrar, and Secretary of the Council and Faculties.

WALTER KING STONE, A. B.,
First Assistant Librarian.
A. B., Christian Brothers College (St. Louis), 1877; Assistant Librarian, University of Missouri, 1897-1905; First Assistant Librarian, 1905—.

*CHARLES L. WOODS,
Secretary of the Executive Committee.

*HENRY WOOD,
Treasurer.

MILLARD LEWIS LIPSCOMB, A. M.,
Superintendent of Buildings and Grounds.

GEORGE E. KESSLER,
Supervising Landscape Architect.
Chief Architect, World's Fair, St. Louis.

BURR HOWEY OZMENT,
Leader of Cadet Band.

MRS. LOUISE NORWOOD FITCH,
Matron.

MRS. IDA CUNNINGHAM,
Assistant Matron.

FRANK M. BROWN, B. S., M. S.,
Attorney for the Collection of the Collateral Inheritance Tax.
B. S., University of Missouri, 1878, M. S., 1881; Assistant in Office of Attorney-General of Missouri, 1881-1885; Reporter of Supreme Court of Missouri, 1885-1897; Attorney for the Collection of the Collateral Inheritance Tax, University of Missouri, 1905—.

ROBERT B. CALDWELL, A. B.,
Graduate Manager of Athletics.
A. B., University of Missouri, 1903.

JOSEPHINE M. SHIELDS,
Principal of the Training School for Nurses, and Head Nurse, Parker Memorial Hospital.
Post Graduate School for Nurses, Chicago, 1895; Graduate Student, Training School for Nurses, Presbyterian Hospital, Chicago, 1904; Principal of the Training School for Nurses, University of Missouri, and Head Nurse, Parker Memorial Hospital, 1904—.

MRS. MATTIE DRAKE WILLIAMS,
Matron of University Boarding Club.

AUGUST WILLIAM KAMPSCHMIDT, M. D.,
Anesthetist, Parker Memorial Hospital.
M. D., University of Missouri, 1906; Intern, Parker Memorial Hospital, 1905; Anesthetist to Parker Memorial Hospital, 1906-07.

MERRILL EDWARD OTIS, A. B.,
Alumni Recorder and University Publisher.
A. B., University of Missouri, 1906; Alumni Recorder and University Publisher, University of Missouri, 1906-07.

JOSEPH WILLIAM AMMERMAN, A. B., A. M.,
Clerk in the Secretary's Office.
A. B., University of Missouri, 1904, A. M., 1905.

PEARL SMITH, A. B.,
General Secretary of Y. W. C. A.
A. B., University of Minnesota, 1906. General Secretary of Y. W. C. A. University of Missouri, 1906-07.

SAMUEL PERRY WILSON, A. B.,
General Secretary of the Y. M. C. A.
A. B., University of Michigan, 1905; Travelling State Student Secretary for Missouri, Y. M. C. A., 1905-06; General Secretary of the Y. M. C. A., University of Missouri, 1906-07.

*JESSE KELLER,
Librarian.

HAROLD S. WILLIAMS, A. B.,
Acting Secretary to the President.
A. B., University of Missouri, 1906.

NON-RESIDENT INSTRUCTORS.

(Summer Session, 1906.)

LAWRENCE EDMUNDS GRIFFIN, A. B., Ph. D.,
Professor of Zoology.
(Professor of Zoology, Missouri Valley College.)

PAUL H. GRUMMANN, A. B., A. M.,
Professor of Modern German Literature.
(Professor of Modern German Literature, University of Nebraska.)

PHILO M. BUCK, A. B., A. M.,
Instructor of English.
(Instructor of English, William McKinley High School, St. Louis.)

LECTURERS BEFORE THE UNIVERSITY.

FREDERICK C. HICKS, Ph. D., Professor of Economics, University of Cincinnati. Subject: *"A New Commercialism."* April 12, 1906.

HON. C. A. NEWTON. Subject: *"The Alumni, their Possibilities and Duties."* April 14, 1906.

JOHN M. BURNHAM, Ph. D., Professor of Latin, University of Cincinnati. Subject: "A. D., 529." April 17, 1906.

MR. B. B. HERBERT, Editor of the National Printer-Journalist, Chicago. Subject: *"The National Editorial Association."* April 20, 1906.

REV. JAMES THOMAS COFFEY, Rector of St. Leo's Church, St. Louis. Subject: *"The Sunday Closing Law."* April 22, 1906. Subject: *"Thou Shalt Not Steal."* April 23, 1906.

MR. GEORGE B. LONGAN, Telegraph Editor, Kansas City Star. Subject: *"The Telegraph Editor."* April 27, 1906.

WILLIAM D. MACCLINTOCK, Professor of English, University of Chicago. Sermon, April 29, 1906.

MR. SAMUEL BOWLES, Editor of the Springfield (Massachusetts) Republican. Subject: *"The Independent Newspaper; Its Character and Functions."* May 4, 1906.

REV. FREDERICK J. STANLEY, D. D., L. H. D., General Secretary of the American Sabbath Union. Subject: *"The Young Manhood of Japan."* May 6, 1906.

MR. WALTER B. STEVENS, Secretary of the World's Fair, St. Louis. Subject: *"The Special Correspondent."* May 11, 1906.

Mr. M. M. DEARING, Secretary of the Civil Service District. Subject: *"Opportunities for College Men in the Competitive Civil Service."* May 12, 1906.

RIGHT REVEREND DANIEL S. TUTTLE, Bishop of Missouri. Sermon, May 13, 1906.

H. B. WARD, Ph. D., Professor of Zoology, University of Nebraska. Subject: *"The Relation of Animals to Disease."* May 14, 1906.

MR. MELVILLE E. STONE, Manager of the Associated Press Dispatch, New York. Subject: *"The Associated Press."* May 22, 1906.

REV. FRANCIS W. RUSSELL, D. D., Pastor of the West Presbyterian Church, St. Louis. Subject: *"John the Baptist."* September 27, 1906.

MR. OWEN R. LOVEJOY, Field Secretary of the National Child Labor Committee. Subject: *"The Work of the National Child Labor Committee in Relation to Education."* October 15, 1906.

DR. S. H. WAINWRIGHT, of Kobe, Japan. Subject: *"Ideals in Japan."* October 22, 1906.

MR. F. A. DELANO, President of the Wabash Railroad Company. Subject: *"The Choice of a Profession."* November 22, 1906.

MR. W. A. EVANS, of the Kansas City Star. Subject: *"The Work of a Reporter."* December 6, 1906.

HON. HERBERT S. HADLEY, Attorney General of Missouri. Subject: *"Combinations."* January 9, 1907.

PROFESSOR WILLIS L. MOORE, Chief of the United States Weather Bureau. Subject: *"Phenomena of the Air."* January 16, 1907.

MAX MEYER, Ph. D., Professor of Experimental Psychology, University of Missouri. Subject: *"Psychology and Affairs."* January 18, 1907.

REV. EDMUND DUCKWORTH, Pastor of St. James Church, St. Louis. Sermon: "The Sanctity of the Human Body." January 20, 1907.

RUDOLF TOMBO, Jr., Ph. D., Adjunct Professor of German, Columbia University. Subject: *"Hauptmann's Sunken Bell."* January 22, 1907.

REV. FRANCIS W. RUSSELL, D. D., Pastor of West Presbyterian Church, St. Louis. Sermon. February 10, 1907.

MR. E. E. E. MCJIMSEY, Editor of the Springfield (Missouri) Republican. Subject: *"The Missouri Journalist's Duty to the State."* February 15, 1907.

MR. JOHN N. EDWARDS, of the St. Louis Republic. Subject: *"The Gathering of the News."* March 14, 1907.

MR. WILLIAM M. LEDBETTER, City Editor of St. Louis Globe Democrat. Subject: *"The City Editor."* March 21, 1907.

STANDING COMMITTEES.

(The member whose name stands first on the committee is chairman.)

I. APPOINTED BY THE EXECUTIVE BOARD.

Board of Health—Professors Moss, Walter McNab Miller, Brown.

Daily Assembly—Professors Graves, Jones, A. M. Greene, Jr.

University Exhibits—Professors Pickard, Loeb, Waters.

Summer Session—Professor Hill.

Dormitory Board—Professors Lipscomb, Babb, Defoe, Jones, Breed, Day.

Library Committee—Professors Jones, Ellwood, O. M. Stewart.

II. APPOINTED BY THE PRESIDENT.

Museums—Professors Lefevre, Marbut, Pickard, Mumford, Duggar, Calvert, Ellwood, Weeks.

Head Examiner—Professor Hedrick.

Rules—Professor Roberts.

Student Affairs—Professors Lipscomb, H. B. Shaw, Frazier.

Honorary Degrees—Professors Pickard, Hedrick, A. M. Greene, Jr., Whitten, Hinton.

Public Exercises—Professors Graves, Scott, A. M. Greene, Jr.

Student Activities:

Publications—Professor Fairchild.

Musical—Professor Almstedt.

Literary, Debating, Dramatic—Professors Scott, M. A. Shaw, Trenholme.

Gymnasium and Athletics—Professor Hetherington.

Class and Miscellaneous—Professor Hoffman.

Accredited Schools—Professors Hill, Defoe, Allen, Brown, Loeb, Almstedt.

Catalogue—Professors Lipscomb, Curtis, Belden.

Entrance—Professor Loeb.

Schedule of Studies and Examinations—Professors Spalding, Lipscomb, Kellogg, Graves, Roberts, Noyes, Mumford.

Examination of Class Cards—Professors Jones, Hill, Waters, Lawson, McAlester, A. M. Greene, Jr.

Board of Recommendations—Professors Hill, Spalding, Forbes.

Graduation (College of Arts and Science)—Professor Manly.

Graduation (other departments)—The Dean.

Special Students—The Dean.

III. APPOINTED BY THE DEAN OF THE COLLEGE OF ARTS AND SCIENCE.

Room Committee (for Academic Hall)—Professors Trenholme, Manly, Hedrick.

IV. APPOINTED BY THE DIVISIONS OF THE FACULTY OF THE COLLEGE OF ARTS AND SCIENCE.

Graduate Conference (College of Arts and Science)—Professors Loeb, Pickard, Duggar, Belden, Hedrick, Hill, Jones.

UNIVERSITY FELLOWS, 1906-07.

Romance Languages:

THEODORE ELY HAMILTON, A. B., Howard University, 1899; A. M., University of Missouri, 1900.

Education:

GEORGE WALTER RIDGEWAY, A. B., University of Missouri, 1904.

English:

THECKLA KAHN, A. B., University of Missouri, 1902.

Zoology:

MARY ISABELLE STEELE, B. S., University of Missouri, 1900, A. M., 1901.

UNIVERSITY OF MISSOURI SCHOLARS, 1906-07.

History:

URIEL WRIGHT HUGHES, A. B., University of Missouri, 1906.

German:

JANE ANNETTA HARRISON, A. B., and B. S. in Education, University of Missouri, 1906.

Latin:

ELEANOR MADGE GORDON, A. B., University of Missouri, 1906, B. S. in Education, 1907.

Mathematics:

ADRIANA MAY LIEPSNER, A. B., University of Missouri, 1906, B. S. in Education, 1906.

Latin:

MARY JESSIE BARNETT, A. B., University of Missouri, 1895, A. M., 1897.

Romance Languages:

LOUIS ETIENNE IMBERT, A. B., University of Missouri, 1906.

MISSOURI COLLEGE UNION SCHOLARSHIPS.

Zoology:

ORESTA CARROLL GROSS, A. B., Missouri Valley College, 1900.

Political Science and Public Law:

CLARENCE J. PRIMM, A. B., Park College, 1906.

Latin:

LAURA ALICE BOYD, A. B., Tarkio College, 1906.

Romance Languages:

JOSEPH ODEN HARRIS, A. B., William Jewell College, 1906.

PRIZE SCHOLARSHIP FOR DEBATING.

ALBERT HEINZ, Cameron, Missouri.

GENERAL INFORMATION.

Historical Statement:

The legislative act establishing the public school system was approved February 9, 1839, and that establishing the University was approved February 11, 1839. This is considered the date of the foundation of the University.

The University was located at Columbia, Boone county, June 24, 1839. The cornerstone of the main building was laid July 4, 1840. Courses of instruction in Academic work were begun on April 14, 1841. A Normal Department was established in 1867, and was opened in September, 1868. In 1869 women were admitted first to the Normal Department, in 1870 to the Academic Department, and soon after to all Departments. The College of Agriculture and Mechanic Arts and the School of Mines and Metallurgy were made Departments of the University in 1870—the School of Mines and Metallurgy being located at Rolla, where it was formally opened November 23, 1871. The Law Department was opened in 1872; the Medical Department in 1873; and the Engineering Department in 1877. The Experiment Station was established, under act of Congress, in 1888. The Missouri State Military School was established in 1890. In June, 1896, the Graduate Department was established by the Board of Curators. In 1867 the State gave aid for the first time to the University—a sum of $10,000. On January 9, 1892, the Main Building of the University at Columbia was destroyed by fire. In the following March, the Legislature gave for buildings and equipment $236,577. In March, 1893, this fund was increased by a second appropriation of $264,000, and by $25,000 additional for a new building at Rolla. The Thirty-ninth General Assembly appropriated $33,000 to build an additional club house at Columbia, and the Fortieth erected a hospital. The Forty-first General Assembly gave for buildings at Columbia $195,000, and for the same purpose at Rolla, $87,000. The Forty-second General Assembly, in addition to appropriations for maintenance, has appropriated $184,200 for buildings and $152,000 for equipment and improvements at Columbia, and for equipment and improvements at Rolla, $108,000.

On account of the failure of the collateral inheritance tax, however, only $199,898.99 of the amount appropriated for buildings and for equipment and improvements at Columbia was paid; and of the amount appropriated for equipment and improvements at Rolla, $50,788.14 was paid. The Forty-third General Assembly, in addition to appropriations for maintenance, appropriated for buildings at Columbia $70,000, and for equipment and other special purposes, $159,000. For a building at Rolla $20,000 was appropriated, and for equipment and other special purposes, $63,000.

For more detailed statements concerning the various Departments, see their special announcements in this Catalogue.

A. THE DEPARTMENTS AT COLUMBIA.

REQUIREMENTS FOR ADMISSION.

The following are the requirements for admission to the various Departments:

College of Arts and Science:

Fifteen (15) units are required for entrance to this Department, but a condition will be allowed on three (3) of these units in 1907. Beginning with September, 1908, a condition on only two (2) units will be allowed.

Teachers College:

Fifteen (15) units are required for entrance to this Department, but a condition will be allowed on two (2) of these units temporarily.

The School of Agriculture:

Fifteen units are required for admission to this School, but a condition will be allowed on three (3) of these units temporarily. In preparation for admission to the School of Agriculture, students are strongly urged to take at least one laboratory science; if only one science is taken, it is recommended that it be Physics.

Department of Law:

For the year 1907-08, sixteen (16) units, (conditions allowed in three (3) of same) will be required for entrance, all conditions to be removed before entering the Senior Class.

For the year 1908-09, sixteen (16) units without conditions will be required for entrance.

Department of Medicine:

The candidate for entrance to the Department of Medicine must present college work as follows: English, six (6) hours; German,

six (6) hours; General Zoology, six (6) hours; General Physics, six (6) hours; Inorganic Chemistry, six (6) hours. He must also satisfy the entrance requirements specified for the College of Arts and Science. Equivalent work in foreign languages may be substituted for the English and German. A student who lacks a part of the college work required for entrance may be admitted to the Department of Medicine upon condition that he register for this work in the College of Arts and Science. He may then take in addition such of the First year's work in Medicine as does not conflict with the work required for entrance.

The Department of Engineering:

Fifteen units are required for admission to the Department of Engineering, with two (2) conditions in any of the subjects accepted for admission excepting English, Algebra, and Plane Geometry. Three (3) units in English, one and one-half (1½) units in Algebra, one (1) unit in Plane Geometry, one-half (½) unit in Solid Geometry, two (2) units in foreign language, and one (1) unit in science will be fixed requirements or "constants." It is strongly recommended that students present two (2) units in French or German to meet the requirements of two units in foreign language.

In 1909-10 sixteen (16) units will be required for admission in the Department of Engineering with two (2) conditions as above. The courses in Engineering require that students be strong in mathematics and science. Those who are not strong in these lines are advised not to undertake work in Engineering.

School of Journalism:

The same as the College of Arts and Science.

Graduate Department:

Graduates of either sex of the colleges and universities comprising the Missouri College Union and of other reputable colleges and universities, and (in exceptional cases, by special permission of the Faculty) other persons of liberal education, are admitted to such graduate work as they are prepared for. See announcement of this Department, page 96.

Note:—Students from accredited schools will not be admitted, subject to a condition, unless they are graduates of such schools. This applies to all Departments of the University.

Subjects:

The subjects in which these units may be offered, the minimum and the maximum number of units that may be offered, in

each subject and the number of units required in certain subjects for each Department, are presented in the table given below:

SUBJECTS.	Max.	Min.	Required in the Several Departments.					
	For all Departments		College of Arts and Science.	Teachers College.	Agriculture	Law	Medicine	Engineering
English	4	2	3	3	2	3	3	3
Algebra	1½	1	1	1	1		1	1½
Plane Geometry	1	1	1	1				1
Solid Geometry	½	½						½
Trigonometry	1	½						
History	4	1		2				
Civil Government	½	½						
Latin	4	1	Two units in foreign language.	Two units in foreign language.				Two units in foreign language.
Greek	3	1						
German	3	1						
French	3	1						
Spanish	3	1						
Physics	2	1						One unit in science.
Chemistry	2	1						
General Biology	2	1						
Zoology	2	1						
Botany	2	1						
Drawing	1	1						
*Manual Training	1	1						
Physiography	1	1						
†Agriculture	1	1						
Physiology	1	1						

*In the College of Arts and Science and the Department of Law, Manual Training may not be offered.

†Agriculture is accepted for entrance to the School of Agriculture, to the Teachers College and to Engineering only.

DEFINITION OF UNITS IN THE SEVERAL SUBJECTS.

English. The four units that may be offered in English are as follows:

1. *Literature* two periods, *Grammar* two periods, *Composition* one period a week for one year.

2. *Literature* three periods, *Rhetoric* and *Composition* two periods a week for one year.

3. *Literature* two periods, *Rhetoric* and *Composition* three pe-

riods a week for one year. The Literature of the first three years should include the masterpieces recommended for college entrance in the North Central States. The masterpieces are:

For general reading: Shakespeare, The Merchant of Venice, Macbeth; the Six Roger De Coverly Papers in the Spectator; Irving, Life of Goldsmith; Coleridge, The Ancient Mariner; Scott, Ivanhoe, Lady of the Lake; Tennyson, Gareth and Lynette, Elaine, The Passing of Arthur; Lowell, The Vision of Sir Launfal; George Eliot, Silas Marner.

For minute and critical study: Shakespeare, Julius Caesar; Milton, Lycidas, Comus, L'Allegro, Il Penseroso; Burke, Conciliation with America. Macaulay, Essay on Addison and Life of Johnson.

4. For the fourth unit the candidate may offer either:

Literature. A year's work in English or American literature in addition to that described under 3; or

History of the Language. A year's work in the history of the language (Lounsbury's or an equivalent text); or

Literature and History of the Language. Half a year's work in each.

Mathematics. The four units which may be offered in Mathematics are as follows:

Algebra. One unit. Elementary Algebra, including the elementary operations, solution of single and simultaneous linear equations, factoring, radicals, exponents (both integral and fractional), and the solution of numerical quadratic equations.

One and one-half units. Complete elements of Algebra, including the above, and in addition, solution of simultaneous quadratics, of higher equations solved as quadratics, of problems whose solution depends upon quadratics; the formation of equations with given roots; the binomial theorem for *positive integral exponents*; logarithms, including the theory and the practical use of logarithms; and ratio and proportion. For more detailed outline see the report of the committee of the American Mathematical Society, Bulletin, November, 1903; and a paper by E. R. Hedrick, Report of Missouri State Teachers' Association, 1904.

The above work in Algebra is supposed to have been *preceded* by suitable work in Arithmetic and in beginner's Algebra. It is strongly recommended that teachers give at least the last half year, preceding the regular Algebra work, to the beginner's Algebra, as an introduction to Algebra, and a completion of Arithmetic.

The text should cover the ground in the best Algebras, preferably the newer books which contain work on graphs. Books which do not contain all of the above mentioned are sufficient for the first unit, but not for the unit and a half.

Plane Geometry. One unit. The work in Plane Geometry, in order to be acceptable, *must cover a full year* in any good text. It is recommended that part of the year be spent upon the applications of Algebra to Geometry, and of Geometry to Algebra.

Solid Geometry. One-half unit. The work in Solid Geometry, in order to be acceptable, must cover a full half year's work. It is recommended that the work be accompanied by work of semi-laboratory character, including model-making, experimental verification of theorems by weighing, etc. Such laboratory work in mathematics will be allowed due weight in deciding the merits of schools and of individuals.

Trigonometry. One-half unit. This is supposed to cover a half-year in a high school. It includes the elementary notions, logarithms, functions of obtuse angles, solution of right angled triangles, and some work in oblique triangles. This work will be accepted for admission to the courses requiring Trigonometry, but will not be accepted for advanced standing in the University.

One unit. The work done in Trigonometry in the high schools of the State has been unsatisfactory from the standpoint of the University, on account of the small time assigned it. Hereafter, if Trigonometry be given, it is recommended that a full year be spent upon it. This should include such work as that given in any standard text; and the student should be *thoroughly* drilled in logarithms, solutions of right and oblique triangles, various processes of transformation, and the elements of Spherical Trigonometry.

History. The four units that may be offered in History are as follows:

Ancient History. One unit. The history of the Oriental, Greek and Roman Periods as given in any standard high school text, such as Myers' Ancient History (Revised edition), Botsford's Ancient History for Beginners, or West's Ancient History.

Medieval and Modern History. One unit. The history of Europe during the medieval and modern periods as given in Myers' Medieval and Modern History or other good text of of equal scope.

English History. One unit. The political and social history of the English people as given in any good advanced text. A half unit will be given for work of a less advanced character based on such

works as Ransom's Short History of England, or Montgomery's History of England.

American History. One unit. The history of the Colonial and United States periods as given in Channing's History of the United States, or other advanced text. For work of less comprehensive character, only a half unit will be granted.

A half unit in English or American History will be accepted only when accompanied by at least one unit in European History.

Civil Government. One-half unit may be offered in Civil Government. The equivalent of one-half year's work in the fourth year of a high school. A knowledge of the chief organs of local, state, and national government, their relations to each other, and the important functions assigned to each group. Some knowledge of historical development will be required, and no credit will be given unless the student offers at least one-half unit in American History.

Latin. The four units that may be offered in Latin are as follows:

1. Collar and Daniell's First Latin Book or the equivalent.
2. Three books of Caesar's Gallic War with composition based thereon in Moulton and Collar's Preparatory Latin Composition or in Daniell's New Latin Composition. For one book of the Gallic War the equivalent in time of Viri Romae, Nepos, or Eutropius may be offered.
3. Two additional books of the Gallic War and four Orations of Cicero with compositions based thereon in the books mentioned above.
4. Ovid's Metamorphoses (2,000 lines) and four books of Vergil's Aeneid, with prosody.

Greek. The three units that may be offered in Greek are as follows:

1. Ball's Elements of Greek, or White's First Greek Book.
2. Four books of Xenophon's Anabasis, Pearson's Greek Prose Composition, or its equivalent, Goodwin's Greek Grammar.
3. Ten orations of Lysias and the first four books of Homer's Odyssey, or an equivalent amount of other Greek authors. Bridgman's Parallel Exercises based on Lysias.

German. The three units that may be offered in German are as follows:

1. (a) Familiarity with inflection, the more common prepositions, the simpler uses of the modal auxiliary, and elementary

word-order and syntax. (These specifications are in no sense restrictive, but are simply suggestive of the thoroughness required.) (b) Ability to translate a passage of simple prose at sight, with the help of a vocabulary of the less usual words. (c) Ability to pronounce German, and to recognize German words and simple phrases when spoken; intelligent and fluent reading of the text.

2. (In addition to 1.) (a) The translation of ordinary German at sight. This presupposes, in addition to the elementary requirement, the reading of works like the following: *Burg Neideck* (*Riehl*), *Die Journalisten* (*Freytag*), *Wilhelm Tell* (*Schiller*), from 200-250 pages. (b) A thorough knowledge of accidence of the principal values of prepositions and conjunctions, and of the essentials of German syntax—particularly that of the modal auxiliaries and subjunctive and infinite moods. (c) The writing in German of a paragraph upon some subject selected from the works specified above. (d) Ability to follow a recitation conducted in German, and to answer in that language questions asked by the instructor.

3. (In addition to 1 and 2.) (a) The translation of continuous English prose into idiomatic German. (b) A brief essay in German upon one of two subjects from works like the following: Freytag's *Doktor Luther*; Keller's *Dietegen*; Schoenfeld's *Historical German Prose*; Gutzkow's *Zopf u Schwert*; Lessing's *Emilia Galotti*.

French. The three units that may be offered in French are as follows:

1. A knowledge of the main principles of grammar, and a good pronunciation; the ability to translate at sight ordinary nineteenth century prose, represented by not less than four hundred pages selected from at least three authors.

2. A year's work in addition to that outlined under 1. The candidate will be required to show proficiency in syntax, the ability to translate at sight standard prose into simple and idiomatic English, and some facility in writing in French short accounts connected with the works read, or in translating from English a passage of connected prose. Special attention should be paid throughout to pronunciation. Texts should be confined chiefly to standard works of the eighteenth and nineteenth centuries.

3. By a third unit in French is meant the results of a progressive study of the language during a third year under the same general conditions as for a second unit. These should comprise the reading of about a thousand pages of standard French, classical and modern; and the writing of numerous short themes in French, in

which the rules of syntax may be correctly observed. The works should be read, not translated, with the exception of the more difficult passages.

Spanish. The three units that may be offered in Spanish are as follows:

1. A year's work, with the same requirements in grammar, pronunciation, and reading as for the first unit in French, described above.

2. A second year's work in Spanish, parallel to the second year in French, described above. It is recommended that the choice of texts for the second year be confined chiefly to standard works of fiction from the nineteenth century (Caballero, Alarcon, Valera, Galdos, Valdes).

3. A third unit in Spanish comprises the study of Cervantes, Don Quijote, and Novelas Ejemplares; Quevedo, Suenos; Guzman de Alfarache (Part 1); Lazarillo de Tormes. The last two, if difficult to be found, may be replaced by three plays of Lope de Vega and two of Calderon.

Chemistry. The two units that may be offered in Chemistry are as follows:

1. A year's work in Chemistry, five periods a week, of which at least two must be devoted to laboratory work.

2. A second year's work in the subject, with periods as above.

Note-books showing work done must be presented by those who are required to take the entrance examination.

Physiography. If a candidate desires to offer one unit in Physiography he will be examined according to the following scheme:

Air. Construction and interpretation of weather maps; use of instruments; relation of cyclones to wind direction, rainfall, and temperature; presentation of record of temperature and pressure observations kept through one school year.

Ocean. Construction and interpretation of tidal curves from tide tables; interpretation of depth charts and temperature curves.

Land. Determination of ten common minerals from their physical properties; determination of ten common rocks on the basis of mineral compositions and structure; soils—determination of composition of selected examples; sands and gravels—recognition of constituents and derivation; mapping —(a) instruments used, scale, projection, methods; (b) presentation of a detailed contour map, drawn to scale, of at least one square mile, showing, besides relief

and drainage, distribution of the various rock beds (limestone, sandstone, shale, etc.), soils (alluvial or non-alluvial), forest trees, etc.; reading of topographic maps with exercises in description of topographic types from study of the maps.

A map of four square miles showing in addition to the subjects shown on the map offered for the first unit, the roads, railroads, farm houses, forest, cleared land, mines, clay pits and quarries; drawings of the soil and rock exposures in the clay pits, mines, and quarries of his neighborhood, showing the relative position, extent (within the pit or quarry), thickness, and character of each bed; a list and description of the various minerals and rocks found within the area of his map; and an examination and passing grade on the physical features of that part of the United States lying east of the Rocky Mountains.

Physics. The two units that may be offered are as follows:

1. A year's work, five periods a week, of which at least two must be double periods devoted to individual laboratory work. At least 35 exercises, selected from a list of 60 or more, equivalent to those recommended by the National Education Association, must be completed.

2. A continuation of the laboratory for another year, or a year's work in a more advanced text together with laboratory work.

Laboratory note-books must be presented by those who are required to take the entrance examination.

General Biology. The two units that may be offered in General Biology are as follows:

1. One year's work, including not less than five periods a week, two of which at least must be devoted to laboratory work. The following series of animal and plant forms is recommended: (1) Amoeba, (2) Paramoecium or Voticella, (3) Haematoccoccus, (4) Yeast Plant, (5) Spirogyra, (6) Hydra, (7) Mucor or Penicillium, (8) Earthworm, (9) Crayfish, (10) Grasshopper, (11) Fern, (12) Fresh-water Mussel, (13) Seeds and Seedlings, (14) Flowering Plant, (15) Frog, with metamorphosis.

2. More advanced work in the subject, with a study of additional forms during the same length of time as required for 1.

Note-books and drawings showing work done must be presented by those who are required to take the entrance examination.

Zoology. The two units that may be offered in Zoology are as follows:

1. One year's work with periods as described above for General Biology. The following series of animals is recommended: (1) Protozoa (Amoeba and Paramoecium or Vorticella), (2) A Coelenterate (Hydra), (3) An Echinoderm (Sea-urchin or Starfish), (4) An Annelid (Earthworm), (5) a Parasitic Worm (Cestode), (6) A Decapod Crustacean (Crayfish), (7) An Orthopterous Insect (Grasshopper, and comparison with other Orthoptera), (8) A Coleopterous Insect), (9) A Lepidopterous Insect, with larva and pupa, (10) A Hymenopterous Insect, (11) A Pelecypod Mollusc (Freshwater Mussel), (12) An Amphibian (Frog, with metamorphosis).

2. More advanced work in the subject, with study of additional forms, during same length of time as required for 1.

The study of each form must include a consideration of (1) habitat, (2) geographical distribution, (3) food, (4) adaptations to environment, including relation to other forms of animal and plant life, (5) habits and functions, (6) life-history, and (7) structure.

Note-books and drawings showing work done must be presented by those who are required to take the entrance examination.

Botany. The two units that may be offered in Botany are as follows:

1. *Morphology and Physiology.* An equivalent of Bergen's Foundations of Botany and Coulter's Plant Relations.

2. *Histology and Taxonomy.* An equivalent of Gray's Botanical Text-book, Vol. 1 (in part) and Gray's Manual or Britton's Handbook.

Credit will be given for no work, unless note-books are presented.

Drawing. The one unit that may be offered in Drawing is as follows:

A year's thorough work in Freehand Drawing, or in Mechanical Drawing, or in a combination of the two. This unit is the equivalent of five laboratory periods a week throughout the year. Drawings must be presented by students desiring credit in this subject for entrance.

Freehand. The ability to draw and paint natural growths (leaves, flowers); to give correct proportions, perspective, and light and shade in drawing from geometric solids, vases, etc.; to paint with water colors from simple objects (fruit vases); to make designs suitable for book covers and school programmes, in black and white and in color.

Mechanical. Use of instruments and plain lettering; simple

geometrical problems, plain freehand lettering and dimensioning; plans, elevations, and cross-sections; development of the *idea of plan, elevation* and *section* from geometrical solids; drawing accurately to scale plans, elevations, and sections from pupil's own measurements and dimensioned freehand sketches of simple machine parts; plan and elevation of some building measured by pupils. The explanation and practice of isometric and cabinet views as applied especially in joinery.

Combination. The ability to draw, as outlined under the Freehand Course, without the painting; the use of the instruments, plain lettering, the drawing of simple plans and elevations as outlined under the Mechanical Course.

Manual Training. One unit in Manual Training may be offered for admission to any Department except the College of Arts and Science and Law Department. The candidate must give satisfactory evidence of having completed a year's work (five periods a week of at least an hour and a half each) in Manual Training.

Agriculture. A unit in Agriculture shall consist of an equivalent of Goodrich's "First Book of Farming or Bailey's First Principles of Agriculture," with laboratory work.

Physiology.* The unit in this subject shall represent a year's work, including individual laboratory instruction and demonstrations, the equivalent of Martin's Human Body, Colton's Physiology, or Huxley's Physiology, edited by Lee.

Time of Entrance Examinations:

Examinations for admission will be held at the University, September 9, 10, 11, 1907. All persons desiring to enter the University during the First semester of the session of 1907-8, except those holding certificates of graduation from Accredited Schools and those who have already otherwise fulfilled the entrance requirements, must take these examinations. They should present themselves at the Registrar's office, room 18, Academic Hall, at 8 a. m., Monday, September 9. They will then receive directions concerning the rooms in which the examinations will be held.

The programme of examinations is as follows:

Monday, September 9.—English, 8:30-10:30; Algebra, 10:30-12:30; Plane and Solid Geometry and Trigonometry, 1:30-4; Greek, 4-6; Physiography, 4-6.

Tuesday, September 10.—History, 8:30-11:30; Civil Government,

*In cases where the study of Physiology has followed a year's study of Biology.

11:30-12:30; Manual Training, 11:30-12:30; Latin, 2-4; Chemistry, 4-6; Agriculture, 4-6.

Wednesday, September 11.—Physics, 8:30-10:30; General Biology and Zoology, 10:30-12:30; Botany, 10:30-12:30; Drawing, 1:30-3; French and Spanish, 3-6; German, 3-6; Physiology, 4-6.

Entrance examinations will also be held on Monday, Tuesday and Wednesday of the opening week of the Second semester and during the first three days of commencement week in June. The programme of hours for these examinations will be the same as indicated above.

Registration Days:

Every student who applies for admission to the University after the first week (September 9, 10, 11, 12, 13, 14, 1907, First semester; January 27, 28, 29, 30, 31 and February 1, Second semester, 1908) of the semester in which he seeks admission shall pay a fee of $5 for late registration in addition to the fees already provided for; provided, however, that no student shall be admitted to any department of the University for work for which he is to receive credit at a later date than October 15 of the First semester, and March 1 of the Second semester, except in extraordinary cases when the Dean shall have power to admit him on the recommendation of the Committee on Entrance. Students entering late shall be examined or conditioned in the work which their classes have already done. Nothing herein contained shall apply to students entering for the Short Winter Course in Agriculture, or to Hearers.

Acceptance of Grades by Committee on Entrance:

All persons who wish to offer grades in place of an entrance examination in any subject should have them certified to by the proper official of the school in which the grades were made. Blank forms for such certificates will be furnished by the Registrar of the University upon application. These certificates should be sent as soon as possible to the Committee on Entrance. This committee will then notify the student that his grades are approved or that he will be required to take entrance examinations in the respective subjects. For admission of students from Accredited Schools, see page 67.

Advanced Standing:

Claims for advanced standing, in order to receive recognition, must be made by the student within one semester after entrance. Such claims must be presented to the Dean of the Department.

Students who wish to have their claims for advanced standing passed upon before matriculation may present them at any time to the proper authority.

Of his fitness to pursue advanced work the student must satisfy, by examination or otherwise, the Professors of the subjects which he elects.

Special Students:

In recognition of the fact that experience and maturity tend to compensate in a measure for the lack of scholastic attainments, persons who can give satisfactory evidence that they are over 21 years of age will be admitted to the University as special students without passing the regular examination required for entrance, under the following conditions: (1) They must show good reason for not taking a regular course; (2) They must pass such examinations or other tests as demonstrate fitness to pursue profitably all the subjects selected by them; (3) They will not be allowed to take work in more than two subjects with such kindred work as the professors in charge of the major subjects may approve. Special Students are expected to do specially good work in the subjects which they choose and are required to take all regular examinations. If at any period of the session their work becomes unsatisfactory in one or both of the two major subjects, their connection with the University shall be severed by the Dean of the Department. Entrance cards for Special Students are issued by the Deans of the respective Departments, but the approval of the professors in charge of the major subjects is required before the student can be admitted.

Hearers:

With the consent of the President, the Dean, and the instructors concerned, students may be admitted to classes in any Department as Hearers. Hearers shall be enrolled and pay fees, but are not required to take examinations and receive no credit toward a degree.

ADMISSION FROM ACCREDITED SCHOOLS.

The University will admit without examination such graduates of an Accredited School as bring proper credentials of the fact that they have completed the subjects required for entrance to the Department which they desire to enter. For these requirements

see table on page 55. It will admit free of entrance, library, and incidental fees for the first year the student graduating from the school with the highest honors.

The diploma will not be accepted as a credential. The student must present the proper form of certificate, signed by the Principal or Superintendent of the Accredited School. Blank certificates will be furnished by the Registrar of the University upon application. The University recommends that Accredited Schools do not issue such certificates to any students except to those who have graduated. These certificates should be filled out and sent to the Committee on Entrance, Columbia, Missouri. This committee will then notify the student in due time that his certificate has been approved for entrance or that certain additions or corrections are necessary. As the necessity for correction appears in many cases, the student will avoid delay and inconvenience by sending the certificate *as soon as possible*, and in any event some time in advance of the opening of the session.

ACCREDITED SCHOOLS.

(Accredited for fifteen or more units.)

Fully Accredited:

Alton (Ill.) High School.
Appleton City Academy.
Bethany High School.
Blees Military Academy (Macon).
Bonne Terre High School.
Boonville High School.
Brookfield High School.
Butler High School.
Cairo (Ill.) High School.
California High School.
Cameron High School.
Carrollton High School.
Carthage High School.
Charleston High School.
Chillicothe High School.
Christian College (Columbia).
Clinton High School.
Columbia High School.
Columbia Normal Academy.
Covington (Ind.) High School.
Culver (Ind.) Military Academy.
Davenport (Iowa) High School.
De Soto High School.
Dexter High School.
Doniphan High School.
East St. Louis (Ill.) High School.
Enid (Okla.) High School.
Everton High School.
Excelsior Springs High School.
Fort Scott (Kan.) High School.
Fort Smith (Ark.) High School.
Gallatin High School.
Grant City High School.
Greenfield High School.
Greenville High School (Miss.).
Hannibal High School.

Hardin College (Mexico).
Harrisonville High School.
Hosmer Hall (St. Louis).
Hot Springs (Ark.) High School.
Iberia Academy.
Independence High School.
Jefferson City High School.
Joplin High School.
Kahoka High School.
Kansas City Central High School.
Kansas City Manual Training High School.
Kansas City Westport High School.
Kansas City (Kan.) High School.
Kemper Military School (Boonville).
Keokuk (Iowa) High School.
Kewanee (Ill.) High School.
Kirkwood High School.
Lamar High School.
La Plata High School.
Leavenworth (Kan.) High School.
Liberty High School.
Linneus High School.
Logan County High School (Guthrie, Okla.).
Macon High School.
Malden High School.
Marionville Collegiate Institute.
Marshall High School.
Mary Institute (St. Louis).
Maryville High School.
Mexico High School.
Michigan Military Academy (Orchard Lake, Mich.).
Milan High School.
Moberly High School.
Monroe City High School.
Montgomery City High School.
Mound City High School.
Mount Vernon High School.
Nevada High School.
Norborne High School.
Oklahoma City (Okla.) High School.
Oregon High School.
Paola (Kan.) High School.
Palmyra High School.
Paris High School.
Pine Bluff (Ark.) High School.
Plattsburg High School.
Poplar Bluff High School.
Quincy (Ill.) High School.
Rich Hill High School.
Richmond High School.
Rolla High School.
St. Charles High School.
St. Joseph High School.
St. Louis Central High School.
St. Louis McKinley High School.
St. Louis Manual Training High School.
St. Louis Yeatman High School.
Savannah High School.
Sedalia High School.
Shelbina High School.
Shelbyville High School.
Slater High School.
Smith Academy (St. Louis).
Springfield High School.
Steelville High School.
Trenton High School.
University Military School (Mobile, Ala.).
Vandalia High School.
Warrensburg High School.
Washington High School.
Webb City High School.
Webster Groves High School.

Wentworth Military Academy (Lexington).
Western Military Academy (Upper Alton, Ill.).
William Woods College (Fulton).
Windsor High School.

Partially Accredited:

In addition to the above named schools, there are some "partially accredited schools," which do not fulfill all the requirements for an accredited high school, but offer at least twelve approved units. Work done in these schools is accepted for entrance so far as it is approved, but their graduates must submit to an examination in other subjects which they wish to offer for entrance. These schools are:

Albany High School.
Aurora High School.
Bloomfield High School.
Bowling Green High School.
Braymer High School.
Breckenridge High School.
Brunswick High School.
Carleton College (Farmington).
Carterville High School.
Caruthersville High School.
Centralia High School.
El Dorado Springs High School.
Fredericktown High School.
Hamilton High School.
Holden High School.
Hopkins High School.
Huntsville High School.
Higginsville High School.
Kennett High School.
Keytesville High School.
King City High School.
Kirksville High School.
La Belle High School.
Lancaster High School.
Lees Summit High School.
Lexington High School.
Louisiana High School.
Maitland High School.
Memphis High School.
Miami High School.
Monett High School.
Neosho High School.
New Madrid High School.
New London High School.
Odessa High School.
Pierce City High School.
Pleasant Hill High School.
Princeton High School.
Ridgeway High School.
Rockport High School.
Sikeston High School.
Stephens College (Columbia).
Sweet Springs High School.
Tipton High School.
Troy High School.
Tulsa (Okla.) High School.
Unionville High School.
Van Buren (Ark.) High School.
Versailles High School.
Walther College (St. Louis).
Wellsville High School.
West Plains High School.

Accredited Schools in Other States:

The University will admit, without examination, such graduates of schools fully accredited by other State Universities of similar rank, as comply with the requirements for admission from Accredited Schools, indicated on page 67.

Normal Schools:

Graduates from the full four years' course of the State Normal Schools will be admitted by the Committee on Entrance to any Undergraduate Department of the University. They will also be given credit for advanced standing in the College of Arts and Science and Teachers College for all courses in excess of entrance requirements, which count towards the degrees of Bachelor of Arts (A. B.) and Bachelor of Science (B. S.) in Education. In general a "unit" of work in a State Normal School will be counted as six hours' credit in the University.

Inspector of Schools:

The position of Inspector of Schools has been established by the Board of Curators to facilitate the work of bringing the secondary schools into close connection with the University.

BUILDINGS AND EQUIPMENT.

Location:

The University of Missouri is located near the center of the State in Columbia, a town of about 8,000 inhabitants, situated half way between St. Louis and Kansas City.

It is conveniently reached from the east, north and west by the Wabash Railroad and connecting lines. The Missouri, Kansas and Texas Railroad affords a direct route to Columbia to persons living on that line, and to those living on the Missouri Pacific, St. Louis and San Francisco, and Kansas City, Fort Scott and Memphis Railroads.

The surrounding country is elevated, well drained and diversified. It is a limestone region, remarkable for its healthfulness. The University campus includes 32 acres of undulating ground in the southern part of town. The Experiment Farm lies on square south of the Campus, and comprises 648 acres. The Horticultural Grounds (a part of the Farm) are one square east of the Campus and include about 30 acres.

Buildings:

The University has the following buildings:

On the Campus—Academic Hall, separate buildings for Agri-

culture, Chemistry, Engineering, Geology and Zoology, Law, Mechanic Arts, and Medicine, the Parker Memorial Hospital, the Laws Observatory, the Power House, the President's House, and Benton Hall and Lathrop Hall—two dormitories for men; on the Farm—the Agricultural Farm buildings and the new Live Stock Judging and Dairy Buildings, a stone Cattle Barn, the Farm Machine Building, the Dean's Residence and the Power House; on the Horticultural Grounds—the new Horticultural Building, Greenhouses, and Read Hall, the new dormitory for women; on the Athletic Grounds, the Rothwell Gymnasium for men.

Laboratories and Museums:

Laboratories. Facilities for practical instruction in the sciences are provided in the following laboratories: Agronomy, Animal Husbandry, Anatomy, Astronomy, Bacteriology, Botany, Chemistry (including Agricultural Chemistry and Experiment Station work), Dairy Husbandry, Engineering (Civil, Electrical, Sanitary and Mechanical), Entomology, Experimental Psychology, Geology and Mineralogy, Horticulture, Internal Medicine, Pathology, Pharmacology, Phonetics, Physics, Physiology, Physiological Chemistry, Surgery, Veterinary Science, Zoology, and Farm Machinery Laboratory.

For the further equipment of laboratories the Forty-fourth General Assembly appropriated $20;000, in addition to several special appropriations.

Museums. There are museums of Agriculture, Classical Archaeology, Ethnology, Geology, Mathematics and Zoology.

Shops:

The shops of the University are so fully equipped as to admit of a rarely equalled range of industrial work, besides the common kinds of work as pursued in engineering shops; equipment has been provided for all the manual training work of a thorough teacher's course, and special equipment has also been secured for the study of the questions pertaining to Keramics, Art Forging, and Textile work. Individual effort towards some new mechanical achievement is encouraged in every way possible, the attempt being made to procure every necessary item of equipment.

Drawing Rooms:

Rooms are provided for Freehand Drawing, Mechanical Drawing, and for special drawing in Civil, Electrical and Mechanical Engineering.

Dormitories:

The University has two Dormitories for men and one for women. For detailed information concerning these Dormitories and the boarding clubs connected with them, see pages 80-82.

THE LIBRARIES.

The libraries of the University are the General library, including the several collections in the Seminary rooms for students in the classics, the historical and political sciences, and the Romance languages; the Law library; the Medical library; the Engineering library; the Agricultural library; the Experiment Station library; and the collections in the Observatory, the Hospital, the Horticultural, Chemical, Geological, and Zoological buildings; the Lathrop collection in Academic Hall; and the library of the School of Mines at Rolla. They contain in the aggregate about 100,000 volumes and pamphlets. Six hundred and nine periodicals are currently received.

The library has been enriched within the last few years by the gift of Senator George Graham Vest, who presented the library with the large collection of government documents which he made during his twenty years service at Washington; by the gift of Honorable Gardiner Lathrop, president of the Board of Curators, of one thousand dollars for a department library to be known as the "John H. Lathrop Library of English and American Literature," and by the gift of Senator F. M. Cockrell, who presented the library with 413 volumes and 244 pamphlets of government documents.

Books and periodicals may be drawn by all officers and students of the University and by others having special permission. The reading room will seat 125 and the periodical room 35. Seminar rooms such as the political science room are provided for advanced students where work may be pursued with little interruption and with the necessary books at hand. The library is open eleven hours a day for consultation during the academic year, except Sunday, when it is open from two to five p. m. During the Summer Session the library is open eight hours daily except Sunday. The library is closed on important legal holidays.

Students have access to the collections of the State Historical Society also, which contains 35,000 volumes and pamphlets. This library is open seven hours a day, except Sundays and legal holidays.

The Law library occupies rooms on the first floor of the Law building. The collection consists of 12,000 volumes, and the room is open nine and a half hours daily, except Sunday.

The Medical library is shelved in the Medical building and is open six hours daily, except Sunday. The collection consists of 2,200 volumes.

The Engineering library is shelved in the Engineering building and is open seven hours daily, except Sunday. The collection consists of 2,000 volumes.

The Agricultural library is on the second floor of the Agriculture building and is open seven and a half hours daily, except Sunday. The collection consists of 2,000 volumes.

The Experiment Station library is also shelved in the Agriculture building and contains 1,900 volumes.

The other collections, shelved in the various laboratories, are accessible at certain hours daily, except Sunday. The collections are small but have been selected with special reference to the needs of students in these various laboratories.

The library of the School of Mines at Rolla is open twelve hours daily, except Sunday. It occupies rooms in Norwood Hall. The collection consists of 6,250 volumes.

(For fuller description see page 289.)

PHYSICAL TRAINING.

Men's Gymnasium:

A new handsome stone Gymnasium costing sixty-nine thousand dollars has just been completed and equipped with necessary apparatus. The bathing and locker rooms are very commodious. Adjacent to this building is located an Out-Door Gymnasium, one hundred by two hundred feet in size, where all systematic work is taken during good weather.

Women's Gymnasium:

A large airy room adjoining the Ladies' Parlor in Academic Hall has been set aside for the women's gymnasium and well equipped with necessary apparatus. The locker room contains lockers arranged in small groups attached to individual dressing booths, The bath rooms contain eight porcelain tubs and four marble stalls equipped with needle showers. The women have tennis courts for their private use.

Athletic Grounds:

Surrounding the Gymnasium the University has planned and is gradually constructing a series of practice fields or play grounds

for the use of all students, consisting of four Football, Baseball, and Lacrosse fields; a series of out-door Basket Ball Courts and Hand Ball Courts; and thirty-six Tennis Courts. A nine-hole Golf Course has been constructed.

Besides these practice fields there is a field equipped with a quarter-mile oval and a two-twenty yard straight-away cinder track. In this oval is a field for football, baseball, lacrosse and basketball, and at one end three tennis courts. This field is equipped with a grand stand. On it all contests take place. In recognition of the generosity of members of the Rollins family, in the construction of the field, it has been named by the Curators "The Rollins Athletic Field."

ORGANIZATION AND GOVERNMENT.

Organization:

The University Council consists of the President, Deans, Professors, Assistant Professors in all the Departments of the University and the Chairman of the Committee on Student Affairs, the Adviser of Women, and the Librarian. It is the highest organized body of the Faculty. Each Department of the University has its special faculty, consisting of the Professors and some other teachers who give instruction in it.

The President is the executive head of the University, and is a member of all the Faculties.

The Daily Assembly:

From 10 to 10:30 a. m. each day, except Wednesday, there is an assembly of students and faculty in the auditorium. The purpose of this assembly is to broaden and advance the intellectual and religious life of the students. It serves also to bring together students of all departments, and thus arouse and keep alive university spirit. Wednesday at the Assembly hour is used as a general conference period for faculty and students.

Religious Exercises:

Religious exercises are held in connection with the Daily Assembly, attendance being voluntary. They ordinarily consist of a sacred selection by the University Quartette, a reading from the Scriptures, an address by some minister or clergyman, and a brief closing prayer. These exercises are made as attractive and beneficial as possible. During the year distinguished preachers of various churches are invited to deliver sermons before the University on Sunday evenings.

In Columbia there are churches of nearly all the prominent denominations. The University advises its students to attend regularly the services at the churches of their parents. The students maintain an efficient chapter of the Young Men's Christian Association, and one also of the Young Women's Christian Association. (See pp. 93-4). The University exercises much moral and religious influence, but is non-sectarian.

Provisions for Young Women:

All Departments of the University are open to women except that of Military Science and Tactics. In the lecture-rooms they receive the same instruction and meet the same intellectual rquirements as the men. There are special rooms—five in number—furnished with admirable equipment for health and comfort, and presided over by a Matron, who has charge of all the young women in attendance. One of these rooms is fitted up as a gymnasium, containing all the appliances necessary for physical training. During lecture hours the young women, when not attending lectures, are expected to be in their waiting-rooms, or in the University library, or at their respective homes. Read Hall, has accommodations for a limited number of young women. Board may also be secured at reasonable rates in private families.

With the opening of Read Hall, the University introduced as its Head, the Adviser of Women. The Adviser of Women stands to all the University-women-students for what the name indicates. She is prepared to assist them in finding comfortable places to live; and is at all times ready to consult with them upon any matter. Her office is in Read Hall, which is situated on the Horticultural grounds.

The three sorority houses have, in the main, the same house customs as those existing at Read Hall.

Discipline:

In the government of the University, the President and the Faculty rely chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly, to live morally, and maintain good behavior. The removal of those who fail to meet these requirements is demanded in the interest of the University. Students are under the direct supervision of the University only when on the Campus, but they are responsible for their conduct wherever they may be.

Directions for Students:

1. New students should first satisfy the requirements for en-

trance. *This should be done before paying the entrance fees.* Persons who have not had their certificates approved by the Committee on Entrance as indicated on page 66 should present themselves for examination. For time of examinations, see page 65.

2. After passing the entrance examinations students should present their credits to the Committee on Entrance, who will issue them entrance cards to the Department they desire to enter if they have credits for sufficient units. Similar entrance cards will be issued by the Committee on Entrance to those students whose certificates have been approved by such Committee.

3. After receiving their entrance cards, students must pay their entrance fees to the Treasurer.

4. The Treasurer's receipt should be at once presented to the Secretary, who will enroll the student's name and give him his study-card, with necessary instructions for proceeding further.

5. If assistance is needed in obtaining board, men should apply to Professor M. L. Lipscomb. Women must in every case consult with the Adviser of Women before completing any arrangements for rooms or table board.

STUDIES.

Regulations in Regard to Studies:

No student in any Department of the University may have more than 18 hours a week in the lecture room.

Students in the College of Arts and Science are expected to spend not less than 12 nor more than 16 hours a week at lectures or recitations.

One hour in the lecture-room is considered the equivalent of two and one-half hours in the laboratory, the drawing-room, or the shops.

Study-cards taken out at entrance must be properly filled out and presented for approval to the Dean of the Department not later than 5 o'clock p. m. of the day after they are issued.

Students who enter the University in the First semester and wish to make any change in their study-cards for the Second semester, are required to make such change on or before the close of the first Wednesday of the Second semester. Students who fail to comply with this requirement must pay a fee equal to one-half of the regular fees for the session, unless specially excused. Excuses will not be granted except for grave reasons.

Studies in Other Departments:

Students registered in one department may, with the consent of their Dean, take work in other departments if, in the judgment of the Professors concerned, they are prepared for such work. Students taking work in another department than that in which they are registered are subject as respects this work to the rules of the department in which the work belongs.

1. Instruction in Military Science and Tactics is open to men in all Departments. A maximum credit of four (4) hours is given in the College of Arts and Science, in the Teachers College, in the School of Agriculture, and in the School of Engineering.

2. Students may take work in the Summer Session (see Appendix) and receive a credit therefor of seven hours for a term of eight weeks. No additional credit for summer work is allowed except by special permission of the Director of the Summer Session.

Graduate Studies:

See announcement of Graduate Department.

Examinations:

Examinations at the end of each semester close the studies pursued to that point.

Class Honors:

The honor of valedictorian is awarded in the various departments to the student who has the highest average grade.

Reports:

From all departments, except those of Law and Medicine, reports of students are sent, at the close of each semester, to the parents or guardians, showing their standing in the subjects that they are pursuing. The reports of students in Law and Medicine are sent out at the close of the session.

EXPENSES.

Fees and Deposits:

Students in the College of Arts and Science, in the Teachers College, and in the School of Agriculture, and in the Department of Engineering pay a library and incidental fee of $5. A general laboratory fee of reasonable amount may be imposed in Engineering, in addition to the special deposits for each laboratory.

Students in the Departments of Law and Medicine (regular or special) pay $10 a year. It is barely possible that the University may have to increase these fees for 1907-08. Students leaving early will not be entitled to any reduction in the amount of the fee.

Any student who takes any work whatsoever in Law or Medicine must pay the full fee of the Department.

State Cadets in the College of Arts and Science, in the Teachers College, in the School of Agriculture, or in the Department of Engineering, pay no library and incidental fee, but make all the laboratory and other deposits required of other students.

Graduate students in any Department of the University pay a library and incidental fee of $5 a year, and make all the usual deposits. No student will be enrolled in the Graduate Department unless he is taking work which may count toward a Graduate Degree.

The student who has attained the highest rank in the graduating class of any Accredited School will be permitted to enter the College of Arts and Science, or the School of Agriculture, or the Department of Engineering, or the Teachers College without the payment of the library and incidental fee for the first year, provided the certificate be submitted within two years after graduation. See Curators' Scholarships, page 86.

No part of the library and incidental fee is refunded for withdrawal.

Students entering a laboratory are required to make a deposit of $5. From this amount there shall be deducted a fixed charge (in no case less than $1, for each individual laboratory course) and also all charges for materials used or for damages to or loss of University property. If the deposit is insufficient to cover all such charges, the student will be required to make an additional deposit or deposits. When damage or loss is suffered by a laboratory it will be assessed against the deposits of the students using the laboratory at the time of the damage or loss, unless such damage or loss can be traced to some individual student or students. The remainder of any deposit, after payment of all charges, is refunded to the student at the end of his laboratory course in any session. University Fellows and Scholars are exempt from making these deposits in the subjects in which they hold fellowships or scholarships.

Laboratory deposits, and rent of rooms in the Dormitories must be paid to the Secretary of the University; all other fees must be paid at the Boone County National Bank, to the Treasurer of the University.

Students who by reason of sickness enjoy the privileges of the Hospital will be charged a reasonable amount therefor. See announcement of the Hospital in this Catalogue.

Every student who applies for admission to the University after the first week of the semester in which he seeks admission shall pay a fee of $5 for late registration, in addition to the fees already provided for.

All fees must be paid in advance.

Dormitories:

Dormitories for Men, and University Boarding Club. The two Dormitories for men, Benton Hall and Lathrop Hall, lodge about 140 students, and meals can be furnished by the University Boarding Club, which is established in Lathrop Hall, to about 400.

Each room in Benton Hall is furnished with two single iron bedsteads, a table and two chairs, a wardrobe, a bookcase, and a chiffonier. Each room in Lathrop Hall has a closet and is furnished with two single iron bedsteads, a table and two chairs. The occupants are expected to supply whatever else they deem necessary. The rooms are lighted with electric lights. The buildings are provided with a good system of steam and hot air heating and ventilation, and with closets and bath rooms.

Only two students will be allowed to occupy one room, except with the consent, specially given, of the Executive Board; and when three thus occupy one room, each must pay full room rent.

In these two halls, the estimated cost of room rent, table permits and board varies, according to the room, from about $2.50 to about $3.00 a week.

The following charges are made by the University:

a. Room rent varies from $20 to $33 for a session of 38 weeks for each student, according to the location of the rooms. It includes the attention of servants.

An additional charge is made for electric lights, which will be furnished at cost of same to the University by meter.

b. The fee for dining-room permit is $16 a year.

Students who enter before October 15 will be charged the full amount. After October 15 a pro rata will be charged plus ten per cent of the pro rata.

c. A *caution* deposit of $5 is made by each student who rents a room or receives a meal permit for the regular session, as security against damage to or loss of University property. This deposit is refunded at the close of the student's connection with the Dormitories or Club, provided all charges made against him by the University for such damage or loss have been paid in full.

The above charges are payable on or before the first of September to the Secretary of the University.

Students in the Summer Session who rent rooms in Dormitories are charged one-third the rent of rooms for the regular session, and fifty cents a week for the time he takes his meals at the Club. All such students must make a caution deposit of $5, which is returned at the close of the term, if no damage has been done to University property, excepting $1, which will be retained and applied in payment of Matron's salary.

Students in the Short Course in Agriculture who rent such rooms in the Dormitories as are vacant at the time of their entrance are charged therefor in the proportion which the length of their course of instruction bears to the entire session. Such students are charged $4 for a meal permit for the term of the course.

Board in the Dormitories for men is managed by the University Boarding Club, an organization of students who elect their own officers (except Commissary and Treasurer, who are appointed by the Matron with the approval of the Club and the Dormitory Board); levy and collect all assessments; buy their own provisions; and thus regulate their own expenses.

A Matron is employed by the University to supervise the housekeeping and the preparation and serving of meals.

The Club charges each student an initiation fee of $1. This fee is also required of students in the Short Course in Agriculture.

By special consent of the Secretary of the University, students who do not rent rooms in the Dormitories, may be allowed to take meals at the Club table upon the payment of the meal permit of $16.

On no account will any person not duly matriculated in the University, or any person without a permit from the Secretary of the University, be allowed to receive table board in the Club.

No part of the amount paid for room rent or meal permits is refunded when students sever their connection with the Dormitories or Club, but with the consent of the Secretary of the University they may rent their rooms or assign their permits to others.

Order in the Dormitories for men is maintain by Monitors, appointed by the Curators, who report any disorder to the Dormitory Board, consisting of the chairman of the Committee on Student Affairs, the Secretary of the University, and such other persons as may be named by the Executive Board. Refusal of rooms in the Dormitories is given to residents of Missouri only until September 6 of that year, after that date vacant rooms will be rented

to first applicants. No one may occupy a room in the men's dormitories for more than four years.

The University reserves the right to make changes in the rates given above before the opening of the next session.

As the accommodations of the Dormitories are limited, it is necessary for students who wish to engage rooms to make early application for them; they are generally all engaged before the opening of the college year. In order to reserve a room it is necessary to make a deposit of $5, which will be credited on the room rent when paid. The rooms are assigned in the order of application, and requests for them must be made to J. G. Babb, Secretary of the University.

Dormitory for Women.—Read Hall, the new Dormitory for women, was opened September, 1903. This hall lodges twenty-eight young women. The dining-room can accommodate twenty-five additional day boarders. The rent of rooms varies from $45 to $75 a session (38 weeks) for each occupant, according to the location of the room. The cost of table board alone is $3.75 a week. These prices are subject to changes on account of the increase in cost of living. Read Hall is under the management of the Adviser of Women. The customs are such as would be found in any refined home. Read Hall is felt to be the social center of all the women students of the University.

Women before securing board even in private families must first consult the Adviser of Women. They change boarding places only with her consent.

Private Board and Lodging:

Board and lodging in private families may be had for from three to five dollars a week. Private clubs also are formed in which the average cost is two dollars and a half a week. The rent of rooms is from seventy-five cents to one dollar and a half a week for each student.

Regulation of Boarding Houses. The University reserves the right to prescribe the rules under which its students shall board in private families, Dormitories, and Chapter Houses, or elsewhere, whether these rules are or are not published in the Annual Catalogue.

The University Co-Operative Store:

For a number of years, the students of the University have maintained a co-operative store for the purpose of selling to them-

selves books, stationery and general supplies at reasonable prices. No attempt is made to "cut" prices below those ordinarily charged in those places where some competition exists in this business, but the profits made after the expense of maintenance and operation are paid, are divided among the student stockholders in proportion to the amount of their individual purchases made during the year. Any student of the University may become a stockholder (and is thereby entitled to a share in the profits of the store) by purchasing one share of stock at a cost of one dollar; the ownership of this share entitles him to the privileges of membership so long as he is a student of the University. None but students are entitled to share in the profits of the store, and in no case may any officer or teacher of the University or any one not a *bona fide* student participate in such profits. The capital of the store is provided by the amount received from the sale of stock and a small surplus added annually. In the past the store has regularly paid an annual dividend of 10 per cent to its shareholders, who comprise a large portion of the student body. In other words, shareholders have been able to purchase everything at the store at ten per cent less than the lowest prices ordinarily charged for books, stationery and students' supplies in general. The advantages to be derived by a student through owning a share in the store and making his purchases there is readily apparent. The management of the store is under the control of a Board of Directors (elected by the stockholders from among the students and faculty) and of a manager chosen by this Board. The popularity of the store as a student institution is best shown by the fact that last year its total sales amounted to over thirty-one thousand dollars. The store is conveniently located in the main building of the University and is easily accessible to the students at all times.

DEGREES AND CERTIFICATES.

Degrees:

The following degrees are now conferred by the University:

In the College of Arts and Science, Bachelor of Arts (A. B.), Master of Arts (A. M.), and Doctor of Philosophy (Ph. D.).

In the Teachers College, Bachelor of Science (B. S.) in Education, Master of Arts (M. A.), and Doctor of Philosophy (Ph. D.).

In the School of Agriculture, Bachelor of Science in Agriculture (B. S.), Master of Science in Agriculture (M. S.), and Doctor of Philosophy (Ph. D.).

In the Department of Law, Bachelor of Laws (LL. B.).

In the Department of Medicine, Doctor of Medicine (M. D.).

In the Department of Engineering, Bachelor of Science (B. S.) in Civil Engineering, in Electrical Engineering, in Mechanical Engineering, in Sanitary Engineering, in Chemical Engineering and in Hydraulic Engineering, respectively. The degree of Civil Engineer (C. E.), Electrical Engineer (E. E.), Mechanical Engineer (M. E.), Chemical Engineer (Ch. E.), are also given for graduate work.

In the School of Mines and Metallurgy at Rolla, Bachelor of Science (B. S.), and Bachelor of Science (B. S.), in Mining Engineering, in Civil Engineering, and in Chemistry and Metallurgy, respectively. The graduate degrees of Engineer of Mines (E. M.), and of Civil Engineer (C. E.), also are given.

Except that of Doctor of Laws (LL. D.), no degrees are conferred *honoris causa.*

For further information, see the announcements of the respective Departments of this Catalogue.

Certificates:

Certificates are given in the Teachers College, and in Military Science and Tactics, and to students who have completed the prescribed Course in the Training School for Nurses.

COMMENCEMENT EXERCISES.

The Commencement Exercises occupy the four days ending with the first Wednesday in June of each year. For specific days, see Calendar, page 5.

FELLOWSHIPS, SCHOLARSHIPS AND PRIZES.

University Fellowships and Scholarships:

The University offers annually a number of University Fellowships yielding stipends of $250, and University Scholarships with stipends of $150. University Fellows and Scholars are exempt from payment of tuition and of all fees and deposits in the subjects in which they hold fellowships and scholarships. These exemptions increase the value of the fellowships and scholarships by at least $200 when comparison is made with those in institutions which require the payment of high tuition fees. These fellowships and scholarships will be awarded to the applicants who are best prepared and are of the highest promise in scholarship, irrespective of the lines of work they may desire to pursue. It is expected that fellows and scholars will be prepared for graduate work in the

subject in which they elect, and that they will devote themselves mainly to work in this subject. They will do teaching, but may be called upon to render a limited amount of service to the University in other ways. University Fellows and Scholars are allowed to engage in outside work only with the consent of the Dean of the Department, and of the Professor of the subject which they elect. The Executive Board, upon the recommendation of such Dean and Professor, may deprive any student of his fellowship or scholarship, whenever it may appear that he is not devoting himself as he should to his work as a fellow or scholar. Applications must be filed not later than April 1, in order to receive consideration in the award for the next Academic year. Applications received after this date and not later than June 1, will be considered in filling any vacancies which may occur in the fellowships or scholarships. Application blanks may be obtained from the Registrar of the University, and, when filled out, should be sent to the President of the University, Columbia, Mo.

Missouri College Union Scholarships:

The University offers annually a number of Graduate Scholarships in the College of Arts and Science to the graduates of the colleges comprising the Missouri College Union. The award of these scholarships is subject to the following regulations:

1. A graduate scholarship in the College of Arts and Science is established for each of the colleges comprising the Missouri College Union.

2. The faculty of each of said colleges shall be entitled to recommended for such scholarship, on or before March 15, of each year, the student graduating in that year, or in either of the two years immediately preceding, who, in the judgment of the faculty, is best prepared to do graduate work.

3. The University will award a graduate scholarship for one year, with an annual stipend of $125, to each of the students recommended in the manner indicated above.

4. The holders of these scholarships shall be entitled to all the privileges and exemptions, and shall be subject to all of the regulations which are provided for holders of University Scholarships.

The James S. Rollins University Scholarships:

In 1889, the Hon. James S. Rollins left six thousand dollars ($6,000) to endow six Scholarships in the University—"the interest" on this $6,000 "to be forever used and appropriated under the

authority and by the direction of the Board of Curators of the University of the State of Missouri, for the following purposes, that is:

"To found Scholarships to be awarded by the President and Faculty of the University—the vote in each case to be by ballot—as a reward for excellence and promise in—

"*First.* The College of Arts, for the degree of A. B., fifty dollars.

*"*Second.* The College of Arts, for the degree of B. S., fifty dollars.

"*Third.* The College of Agriculture and Mechanic Arts, for the degree of B. Agr., fifty dollars.

"*Fourth.* The College of Law, for the degree of LL. B., fifty dollars.

"*Fifth.* The College of Medicine, for the degree of M. D., fifty dollars.

"*Sixth.* The College of Engineering, for the degree of B. S. in C. E., fifty dollars.

These Scholarships are intended as a recognition of merit and character in the beneficiaries, and shall be payable on the first day of June of each year to that member of the *Junior class*, in each of the Colleges designated, who shall be adjudged entitled to it by the President and Faculty; and the names of the persons receiving said Scholarships shall be publicly announced on Commencement Day by the President of the University.

"In according these Scholarships, it is earnestly impressed upon the President and Faculty of the University, that in the mind of the donor, purely intellectual and literary ability are not alone to be considered, but that the moral character of the contestants should be regarded as a factor of no small weight in coming to a decision.

"With the earnest hope that, by the means here provided, worthy young men and women may in all coming time be helped and encouraged in their struggle toward a higher life and a greater usefulness, this fund is committed to the honor and good faith of the State, whom the Board represents, and by whose authority the donation is made and accepted."

Curators' Scholarships:

Secondary Schools. 1. By order of the Board of Curators, the student who attains the highest rank in the graduating class of

*The B. S. degree is no longer conferred in the College of Arts and Science. This Scholarship is now awarded to a candidate for the A. B. degree.

any Accredited School will be permitted to enter the College of Arts and Science or the College of Agriculture and Mechanic Arts, and the Department of Engineering, without the payment of the first year's entrance, library, and incidental fee, provided the certificate be presented within two years from date of graduation.

The following students were admitted during the session of 1906-07 under this provision:

Carrie Lind Pancoast ..... Trenton High School
James Preston Kem, Jr. ....Blees Military Academy
Mae Wonsetler ....Christian College
Mary Efale Brown ....Norborne High School
Clara Davis .... Lamar High School
Earle McDowell Mitchell .... Mound City High School
Louis Otto Kunkel .... Mexico High School
Norman A. Cox .... Joplin High School
De La Vergne Buckingham ..... Boonville High School
Bertha Alice Steele ....Independence High School
Sidney Steinan ..... University Military School of Mobile
Edwin Wilhite Patterson ....Central High School, Kansas City, Mo.
Robert Bernard Diemer .... Palmyra High School
Lela May Frampton .... Lamar High School
David Wesley Lucas .... Columbia Normal Academy
Carter A. Proctor .... Doniphan High School
Joseph Arthur Flammang ....Rich Hill High School
Lawrence O. Clarkson .... Macon High School

2. *Debating and Essay Contests.* In accordance with a practice recently established, annual Inter-High School Contests in Debating and Reading or Reciting of Essays will be held on May 4, 1907, at the University of Missouri in Columbia between representatives of the Accredited Public High Schools of Missouri. "The winner of each contest shall be entitled to an Undergraduate Scholarship of the value of $125 and exemption from all fees, except laboratory fees, such scholarship to be paid in installments during the student's first year in the University."

The following regulations governing the contests and the award of the scholarships have been adopted by the Board of Curators:

"1. *Scope of Contests.* The contest between the boys shall be in debate and that between the girls shall be in the reading or reciting of essays, the subject for debate to be assigned by a University committee, and the subjects for essays to be selected by contest-

ants; the subject of an essay shall be submitted to the committee not less than one month previous to the contest in Columbia.

"2. *Time.* The contests shall be held on or near the last Saturday in April of each year, the exact date to be determined by the University committee.

"3. *Contestants.* Each school entering the contests may send one representative to each contest, i. e., one boy and one girl, the contestants to stand among the highest fourth of the senior class in general scholarship. (Only Accredited Public High Schools may send representatives.)

"4. *Preliminary and Final Contests.* Each contest shall be divided into a preliminary and a final contest:

(A) Preliminary contests shall be held during the day of the date announced, in the presence of competent judges appointed by the University committee. The judges shall select from each contest not more than six contestants who may compete in the final contest.

(B) Final contests shall be held during the evening of the date announced, in the presence of other competent judges similarly appointed, and shall be limited to the successful contestants of the preliminary contests.

"5. *Length of Speeches and Essays.* No speech shall exceed eight minutes in length, and no essay shall contain more than one thousand words. This length may be reduced by the committee so far as the preliminary contests are concerned. Details of arrangements shall be left to the committee.

"6. *The Limit of Entrance.* Each high school desiring to compete shall notify the Chairman of the University committee not less than ten days before the contests of its intention to enter the competition, and at the same time shall submit the names of its representatives.

"7. *High School Preliminaries.* The method of selecting the representatives shall be left to the school principals concerned, but the University advises that preliminary contests be held in each high school as a means of determining who shall represent it. Every representative must bring to the University committee written credentials from his or her school principal."

The subject for Debate in 1907 is: "*Resolved*, That the United States should impose additional restrictions upon immigration." The subject for debate in 1908 will be announced later in a special circular.

The subjects of Essays may be selected by the contestants, sub-

ject to the approval of the University committee. See regulation 1 above.

It is hoped that this movement on the part of the University will tend to foster an interest among the high school students of the State in questions of current interest and in the correct expression of thought. The committee will gladly answer any inquiries from teachers or students who are interested. The committee consists of Professors A. Ross Hill, Isidor Loeb, and John R. Scott.

3. *Masonic Home of Missouri, and Odd Fellows Home.* Free Scholarships in the College of Arts and Science are offered to such students from the "Masonic Home of Missouri," at St. Louis, and the "Odd Fellows' Home," at Liberty, as may be prepared to enter the University.

Missouri College Union. The student attaining the highest grade, or who shall be first in merit, in taking the degree of A. B., B. S., or B. L., in the graduating class of any of the universities or colleges composing the Missouri College Union, will be admitted to this University for the first year without payment of any tuition, library, or incidental fee. The Missouri College Union is now composed of Washington University, Westminster College, William Jewell College, Drury College, Central College, Missouri Valley College, St. Louis University, Park College, Tarkio College, and the University of Missouri.

The Laws Astronomical Medal:

A medal, called the "S. S. Laws Astronomical Medal," is offered annually at Commencement to the student who stands highest in Astronomy, and has at the same time attained a high average of general scholarship. An original thesis written on some astronomical subject, and showing capacity for scientific investigation, is required.

Dachsel Prize:

Ten dollars in money, by the late Charles Dachsel, engineer of Jefferson City, Mo., is awarded for the best thesis on the Steam Engine.

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The McAnally Medal is offered for the best essay, thesis, or poem by a member of the Senior class, competing under certain rules laid down by the founder of the prize. Subject for 1907-08, "Henry Wadsworth Longfellow."

Law Prizes:

The Edward Thompson Company, Law Publishers, of Northport, New York, give annually to the author of the best thesis submitted

by a member of the graduating class a prize consisting of a complete set of their famous American and English Encyclopedia of Law, 2d edition. This set consists of thirty-two volumes, and is valued at $240.

The American Law Book Company, of New York City, gives annually a set of up to date publications of the "Cyclopedia of Law and Procedure" now 24 volumes to the student, who in the opinion of the Law Faculty, has made the best progress during his Senior Year. All candidates for this prize must have been resident students for at least two years.

Hon. J. V. C. Karnes, Kansas City, Mo., gives the sum of fifty dollars ($50.00), to be awarded to that student of the Senior or Junior class, who shall submit the best thesis upon some subject within the domain of Legal Ethics.

Military Prizes:

The Curators have provided a silver cup to be awarded each year to the best drilled company.

A gold medal is usually given annually to the best drilled private, and a target medal to the best marksman.

Stephens Medal:

Founded by the late Hon. James L. Stephens, of Columbia, and annually awarded for the best oration by a member of the Senior class. The prize consists of a book in defense of the Christian religion, and a gold medal, for the purchase of which the annual interest on $500 is available.

William J. Bryan Prize:

Established by the Board of Curators through a generous donation by the Hon. W. J. Bryan of Lincoln, Nebraska. The prize consists of $17.50 in money or a medal of equivalent value, at the option of the successful contestant, and is awarded for the best essay on some subject pertaining to the Science of Government. In 1907-08 the William J. Bryan Prize will be awarded for the best essay on "The Position and Influence of the Senate of the United States," under the following conditions:

1. Competition is open to all students of the University.
2. The essays submitted shall contain not more that 2,500 words.
3. They must be in the hands of the Registrar of the University not later than 12 o'clock noon, of the first Saturday in May.
4. Each essay shall be signed with a fictitious name and be

accompanied with a sealed envelope containing the real name of the writer and bearing the fictitious name on the outside.

5. An essay which is awarded a prize shall become the property of the University and be deposited in the Library.

William S. Woods Prize:

Established by the Board of Curators through a generous donation by the Honorable William S. Woods, of Kansas City, Missouri. The prize consists of $50 in money and is awarded for the best essay on some subject pertaining to the history, people, or products of Missouri. In 1907-08 the William S. Woods Prize will be awarded for the best essay on "The History of Labor Legislation in Missouri," under the following conditions:

1. Competition is open to Juniors of all Departments of the University. (The Committee on Graduation of Each Department decides on the eligibility of competitors.)

2. The essays submitted shall contain not more than 5,000 words, and they must be type-written.

3. They must be in the hands of the Registrar of the University not later than 12 o'clock noon, of the first Saturday in May.

4. Each essay shall be signed with a fictitious name and be accompanied with a sealed envelope containing the real name of the writer and bearing the fictitious name on the outside.

5. An essay which is awarded a prize shall become the property of the University and be deposited in the Library.

Nelson C. Field Prize:

An annual prize of $100 for the best poem submitted by a student in the College of Arts and Science. Typewritten copies of work submitted, signed with a fictitious name and accompanied with a sealed envelope containing the real name of the writer, must be dropped into the office box of the English Department (Room 35, Academic Hall), not later than May 1.

SOURCES OF AID TO STUDENTS.

The Rollins Aid Fund:

Anthony W. Rollins, M. D., an honored citizen of Boone county, father of the Hon. James S. Rollins, dying in 1845, left by his will the sum of $10,000 in trust for the purpose of educating such indigent youths of Boone county, both male and female, as might be unable to educate themselves. Three-fourths of the annual interest on the fund according to the directions of the donor, is to be devoted

to the education of the youths of Boone county, and the remaining one-fourth is to be added to the interest-bearing principal. The fund amounts now to about $40,000. The President of the University is required, at each Commencement, to invite the citizens who may be present to subscribe for the enlargement of this fund. The beneficiaries of this charity are annually selected by the President of the University from the indigent youths of Boone county, male and female. In compliance with the wishes of the donor, the selection is made with reference to the moral as well as the intellectual qualities of the youths inclined to avail themselves of the advantages of the fund, preference being given, in the selection of boys, to such as evince an inclination to preach the gospel.

Applications for aid from the Rollins Aid Fund must be in writing; a blank form will be furnished by the Secretary of the University, with whom it must be filed after it has been filled. The applicant must appear in person at the opening of the first semester, September 9, as no reservation will be made. No application should be made, or will be received, unless the applicant has passed the examination for entrance and has been duly admitted to the University.

Cadetships:

Each Senator and Representative of the General Assembly of Missouri may appoint three cadets each year, from his district. For further information, see announcement of the Missouri State Military School. See page 280.

COMMITTEE ON RECOMMENDATIONS.

A Committee of the University Council, composed of representatives of all Departments of the University, collects information regarding openings for professional and business employment and recommends students and graduates who may be fitted to fill them. The Alumni Recorder is Secretary of this Committee.

SOCIETIES.

Literary and Scientific:

There are connected with the University at Columbia 16 societies for students—the "Graduate Club," the "Athenaean," the "Union Literary," the "Bliss Lyceum," the "Medical Society," the "Agricultural Society," the "Missouri State University Debating Club," the "New Era Debating Club," "Der Deutsche Klub," the "Sketch Club," the "Zoological Field Club," the "English Club," the "Asterisk

Club," the "Engineering Society," "Student Meeting of the American Institute of Electrical Engineers," the "History Club of the University of Missouri," and the "Mathematical Journal Club."

Musical:

The students maintain a Military Band and two Glee Clubs,—one composed of young men and one of young women.

Young Men's Christian Association:

The object of this organization, which dates its existence in the University from January 18, 1891, is the same as in other institutions of learning, namely, the union of Christian students for Christian work. For the past six years, the Association has been growing in strength, until now it is by far the largest college association in the State, employing a General Secretary, who gives all his time to the work. Its membership is composed of men representing all phases of college life—athletics, debate, journalism, music, and others.

A meeting is held every Sunday afternoon at 2:00 o'clock in the University Auditorium, which is addressed from time to time by professors and prominent men from Columbia and other cities. The Association conducts a mid-week prayer meeting. This year over 200 men are enrolled in Bible Classes, following courses based on daily study. These classes are led by students.

The Association is at present engaged in an effort to erect a $50,000 Association building on a lot owned by the Association, at the north entrance to the Campus. As this catalogue goes to the press we have $45,000.00 subscribed toward the proposed building. The contract has been let and the foundation is being put in. $15.000 more is still needed for finishing and furnishing the building. A state university is a strategic point for religious work, and there are few ways in which one could make a better use of money than by contributing to the erection of this structure.

At the beginning of each scholastic year, a committee of the Y. M. C. A. meets students at the trains and freely renders them assistance by securing board, by introducing them to friends and to officers of the University, and by various other acts of kindness. A letter sent in advance to the General Secretary of the Young Men's Christian Association, Columbia, Missouri, will receive prompt attention.

An employment bureau is maintained for the purpose of securing work for those students who find it necessary to pay their ex-

penses, in whole or in part, by their own earnings. Over $3,000.00 worth of work has been furnished students this year. The Bureau guarantees no one a position, but tries to help all who apply. Those who desire help of this kind should write to the General Secretary of the Young Men's Christian Association before coming to Columbia.

Young Women's Christian Association:

The Association was organized April 2, 1891, and now has enrolled more than 315 members. The strongest all-around women students are among its members. It has its headquarters in Academic Hall, and employs a General Secretary, who devotes all her time to furthering the interests of the Association. The object of the organization is the four-fold development of the University women—physical, social, mental, and spiritual. Since the University provides the equipment for women's physical and mental development, the Association devotes itself more especially to the social and religious sides. It strives by receptions and other entertainments to bring the women together and further a wholesome and attractive social life. Religious meetings are held every Thursday at 4:00 p. m., to which all women, whether members of the Association or not, are urged to come and share in the enjoyment and help received from the consideration of subjects bearing upon the life of women students. Classes in the study of Bible and mission courses are important features of the Association work, and each year many women derive intellectual and spiritual benefit from them. The Y. W. C. A. is the only organization in the University which brings all the women students together, fostering good feeling and fellowship, and is worthy of their hearty support.

Alumni:

The Alumni Association is composed of all graduates and former students of the University. It holds an annual meeting on Tuesday afternoon of Commencement week, and is addressed in the Auditorium by an orator who is a graduate of the University. The annual Alumni Banquet is one of the most important events of Commencement week.

The object of the Association is the promotion of education, especially in the halls of Alma Mater, the reunion of early friends and co-laborers, and the revival of those pleasant feelings which entwine themselves about University life.

The officers of the Association are: C. M. Jackson, President, Columbia; H. W. Loeb, First Vice-President, St. Louis; J. C. Mc-

Kinley, Second Vice-President, Unionville; Merrill Otis, Secretary, Columbia; and S. F. Conley, Treasurer, Columbia.

In accordance with the revised Constitution of the Alumni Association adopted at the last annual meeting, local Alumni Associations have been organized in forty-one Counties of Missouri, as well as in many places outside the State.

In December, 1906, an Alumni Directory was issued. This Directory contained an alphabetical, a geographical, and a class register of all the graduates of the University. It was mailed to all alumni. Since September, 1906, the University News Letter, published monthly, has been sent to graduates of the University. An Alumni Magazine, "The Missouri Alumni Quarterly," under the exclusive control of the Alumni Association, is published and is devoted entirely to the interests of the Alumni and of the University.

The University has set apart an Alumni Room for the use of graduates and former students which has been beautifully fitted up out of a fund created by an appropriation by the University and by subscriptions of the local alumni.

STUDENTS' PERIODICALS.

The students maintain and manage five periodicals. These are the *Independent* (weekly), the *Savitar* (annual), *The Missouri Agricultural College Farmer* (monthly), the *Asterisk* (quarterly), and the *Engineering Quarterly.*

STUDENTS' PROTECTIVE ASSOCIATION.

The Students' Protective Association is an organization of students that provides for hospital care in case of sickness. The members of the organization pay a fee of two dollars, and the fund thus raised is used to pay the expenses of members who enter the Hospital as clinical patients. The organization is under the control of a Board whose membership is chosen from the Board of Curators, the Faculty and the Student Body. Students are advised to join the Association.

DEPARTMENTS OF THE UNIVERSITY.

The University comprises the following departments:

I.—College of Arts and Science.
II.—Teachers College.
III.—College of Agriculture and Mechanic Arts, embracing
A. *School of Agriculture.*
B. *Experiment Station.*
IV.—Department of Law.
V.—Department of Medicine.
VI.—Department of Engineering.
VII.—Department of Journalism.
VIII.—Graduate Department.
IX.—School of Mines and Metallurgy (at Rolla).

VIII. GRADUATE DEPARTMENT.

General Statement:

The University of Missouri offers graduate instruction in the College of Arts and Science, Teachers College, School of Agriculture, and Department of Engineering. The graduate work in the College of Arts and Science is under the direction and control of the Graduate Conference of that Department. The graduate work of the other Departments is under the direction of the respective Faculties.

Admission:

Graduates of the colleges and universities comprising the Missouri College Union and of other reputable colleges and universities, and (in exceptional cases by special permission of the Faculty) other persons of liberal education, are admitted to such graduate work as they are prepared for. Admission to the Graduate Department, however, shall not be understood, as implying admission to candidacy for advanced degrees, which is subject to the regulations indicated below.

Persons desiring to pursue graduate work in the College of Arts and Science are admitted by the Chairman of the Graduate Conference of that Department. In other departments graduate students are admitted by the respective Deans.

University Fellowships and Scholarships:

The University offers annually a number of University Fellowships yielding stipends of $250, and University Scholarships with stipends of $150. University Fellows and Scholars are exempt from payment of tuition and of all fees and deposits in the subjects in which they hold fellowships and scholarships. These exemptions increase the value of the fellowships and scholarships by at least $200 when comparison is made with those in institutions which require the payment of high tuition fees. These fellowships and scholarships will be awarded to the applicants who are best prepared and are of the highest promise in scholarship, irrespective of the lines of work they may desire to pursue. It is expected that fellows and scholars will be prepared for graduate work in the subjects in which they elect, and that they will devote themselves mainly to work in this subject. They will do no teaching, but may be called upon to render a limited amount of service to the University in other ways. University Fellows and Scholars are allowed to engage in outside work only with the consent of the Dean of the Department, and of the Professor of the subject which they elect. The Executive Board, upon the recommendation of such Dean and Professor, may deprive any student of his fellowship or scholarship, whenever it may appear that he is not devoting himself as he should to his work as a fellow or scholar. Applications must be filed not later than April 1, in order to receive consideration in the award for the next Academic year. Applications received after this date and not later than June 1, will be considered in filling any vacancies which may occur in the fellowships or scholarships. Application blanks may be obtained from the Registrar of the University, and when filled out should be sent to the President of the University, Columbia, Mo.

Missouri College Union Scholarships:

The University offers annually a number of Graduate Scholarships in the College of Arts and Science to the graduates of the colleges comprising the Missouri College Union. The award of these scholarships is subject to the following regulations:

1. A graduate scholarship in the College of Arts and Science is established for each of the colleges composing the Missouri College Union.

2. The Faculty of each of said colleges shall be entitled to recommend for such scholarships, on or before March 15 of each year,

the student graduating in that year, or in either of the two years immediately preceding, who, in the judgment of the faculty, is best prepared to do graduate work.

3. The University will award a graduate scholarship for one year, with an annual stipend of $125 to each of the students recommended in the manner indicated above.

4. The holders of these scholarships shall be entitled to all privileges and exemptions, and shall be subject to all of the regulations which are provided for holders of University Scholarships.

Curators' Scholarships:

By order of the Board of Curators, the student who attains the highest grade, or who shall be first in merit, in taking a Bachelor's degree, in the graduating class of any of the colleges or universities composing the Missouri College Union, will be admitted to this University for the first year without the payment of any tuition, library, and incidental fee.

Graduate Club:

A club has been organized by the graduate students for the purpose of furthering their social and scholastic interests in the University and of bringing themselves into touch with graduate student life elsewhere.

Publications:

The "University of Missouri Studies," the "Bulletin of the Laws Observatory" and a series of special publications are maintained as a means of publishing the results of original research in the University by instructors and graduate students.

Courses of Instruction:

The courses of study open to graduate students may be found under the several departmental announcements in this Catalogue. A special "Announcement of the Graduate Department for 1907-1908" may be obtained from the University Publisher, Columbia, Mo.

1. College of Arts and Science.

Regulations Governing the Degree of Master of Arts:

The degree of Master of Arts is offered to students who have spent at least one year exclusively devoted to advanced courses of study, and who have submitted an acceptable dissertation and passed all prescribed examinations.

A student wishing to make application for the degree must fill

out a blank form, provided for the purpose, and must present it to the Chairman of the Graduate Conference on or before October 1.

In order to be accepted by the Conference as a candidate for the degree, the student must give evidence that he has completed such a liberal undergraduate course of academic study as is offered by colleges of good standing, and that he has received a baccalaureate degree in Arts or Science equivalent to the baccalaureate degree of the University of Missouri.

In making application the student must indicate the subject of the dissertation and the course of study selected by him on the form referred to above, which must bear the signature of approval of the professor in charge of his major subject, before it is presented to the Graduate Conference for its action. He may, however, defer submitting the subject of the dissertation to the Conference until November 1.

The candidate must choose a major subject, to which he must devote the greater part of his time during the year, and also such other subjects as may be approved. A majority of all work represented in the course of study must be selected from the groups designated as *Primarily for Graduates.*

A dissertation evincing capacity for original research and independent thought in the subject of the major work must be submitted to the Conference for approval on or before May 1.

The attention of students is called to the fact that graduate work can not be subjected to rigid regulation, and the Graduate Conference reserves the right to deal with each case on its individual merits.

With the approval of the professors concerned, such candidates as have fulfilled all requirements may, at the close of the year, be recommended by the Graduate Conference to the Board of Curators for the degree of Master of Arts.

Regulations Governing the Degree of Doctor of Philosophy:

1. *General Statement.*

The degree of Doctor of Philosophy is offered to students who have pursued advanced courses of academic study, without serious interruption, for a period of at least three years, and who have submitted an acceptable dissertation and passed all prescribed examinations.

In order to be accepted by the Graduate Conference as a candidate for the degree of Doctor of Philosophy, the student must give evidence that he has completed a liberal undergraduate course

of academic study such as is offered by colleges of good standing, and that he has received a baccalaureate degree in Arts or Science equivalent to the baccalaureate degree of the University of Missouri.

The Conference reserves the right to decide in each case whether the antecedent training has been satisfactory, and, if any of the years of advanced work have been passed away from this University, whether they may be properly regarded as spent in university studies under suitable guidance and favorable conditions. Private study, or study pursued at a distance from libraries and laboratories, will not be considered as equivalent to university work. In any case, the student must spend the year immediately preceding his final examinations in residence at the University of Missouri.

It should be emphasized that the requirements for this degree are not computed in terms of time and courses, but that the degree is conferred only upon such students as have reached, after long study, a high attainment in some special branch of learning, and have given the clearest evidence of their ability to carry on independent, original research by reason of having made an actual contribution to knowledge of a character approved by competent judges.

2. *Acceptance of Candidates*:

A student wishing to make application for the degree of Doctor of Philosophy must fill out a blank form, provided for the purpose, secure thereto the signatures of the instructors with whom he desires to take his major and minor subjects and present it to the Graduate Conference for approval on or before October 1. He must also give satisfactory evidence of ability to translate French and German at sight.

3. *Requirements for the Degree*:

(a) Subjects of Study—Every candidate for the degree must select one principal or major subject, and at least one and not more than two subordinate or minor subjects, the combination to be approved by the Graduate Conference. The Instructor with whom the student is taking his major subject acts as his official adviser and has the general direction of his work.

The student's principal work must be in the major subject. Although no regulations are laid down with respect to the time to be devoted to the major and minor subjects, in general it may

be stated that the major subject should represent two-thirds of the student's entire time.

(b) Dissertation.—The dissertation, embodying the results of original investigation, must be written upon a subject approved by the adviser, aud must be submitted to the Conference, legibly written or typewritten, on or before May 1, when it becomes the property of the University. The student should consult the Chairman of the Conference for information regarding the form in which the dissertation must be presented.

Upon receiving the dissertation a committee is appointed whose duty it is to report upon it in writing to the Conference.

The candidate is required to print or publish the dissertation, with such revision as the Conference may allow, and he shall present one hundred and fifty copies of the work to the library of the University. The Conference shall take any necessary action to insure the publication of the dissertation within one year after the conferring of the degree. A brief biographical sketch of the writer must be appended to the dissertation.

(c) Examinations.—A committee, consisting of the professor of the candidate's major subject and the professors of his minor subjects, is appointed to take charge of all examinations, and to report upon the same to the Conference in writing.

In addition to final written examinations the candidate may be required to take an oral examination in the presence of the Faculty.

The candidate may, with the approval of the professors in charge, take the examinations in his minor subjects upon the completion of his work in these subjects, but the final examination in the major subject can not be taken until the dissertation has been approved and accepted.

(d) Conferring of Degree.—Upon the satisfactory completion of all requirements, the candidate may be recommended by the Graduate Conference to the Board of Curators for the degree of Doctor of Philosophy.

II. Teachers College.

The conditions of admission to candidacy for the degrees of Master of Arts and Doctor of Philosophy are essentially the same as those laid down by the College of Arts and Science.

Before being admitted to candidacy for a Graduate Degree from the Teachers College, the student must give evidence of sound general knowledge of the history and theory of education, and must

have had considerable experience in teaching.

All graduate students in the Teachers College, whether candidates for a degree or not, must make Education their major subject, but they may elect such related work as may be approved by the Head Professors of Education.

III. School of Agriculture.

The School of Agriculture offers the Graduate Degrees of Master of Science in Agriculture and Doctor of Philosophy.

Graduates of the School of Agriculture or of other schools of equal standing may be admitted to candidacy for Graduate Degrees.

Any graduate student in the School of Agriculture, before being admitted to candidacy for a Graduate Degree, must furnish to the Graduate Committee satisfactory evidence of fundamental knowledge of the principles of Agriculture. This requirement will be adhered to, whether the student does his major and minor work in technical agricultural subjects or in other subjects offered in the School of Agriculture.

Candidates wishing to register in the School of Agriculture for a Graduate Degree should make their arrangements with the Graduate Committee which is charged with functions relative to the acceptance of candidates and arrangement for Graduate Work, in consultation with the Head Professors of those subjects in which the work is chosen.

Candidates for the degree of Master of Science in Agriculture are required to do one year's graduate work at the University. This work must consist of at least twelve (12) hours a week throughout the year. The courses selected must be graduate in character and must be approved by the Dean and the Graduate Committee. Not less than one-half of this work must be in a major subject and the remainder in one or two minor subjects.

An acceptable dissertation, embodying the results of research in the major subject, is also required. The completed dissertation must be typewritten and filed with the Graduate Committee at least three weeks before the candidate's graduation.

The conferring of the degree of Doctor of Philosophy is not dependent upon the fulfillment of a definite time requirement. Scholarly attainments are required in the case of candidates for this degree, particularly in power of independent investigation, which must be evinced by the production of a dissertation embody-

ing the results of original research or productive scholarship of a higher order.

However, not less than three years of graduate study, in connection with proper library and laboratory facilities, are required. At least one year, immediately preceding the conferring of the degree, must be spent in resident work at the University of Missouri. The Graduate Committee shall determine in the case of any candidate, what credit may be given for work done elsewhere. The candidate must give satisfactory evidence of his ability to read German and French.

The candidate is required to select a major subject for his principal work, and not less than one and not more than two minor subjects. No definite regulations are laid down as to the division of time between major and minor subjects, but in general the candidate will be expected to devote two-thirds of his time to his major subject.

The Head Professors of the Departments in which the candidate chooses his major and minor subjects shall take charge of his examinations and report the results to the Graduate Committee. An oral examination before the Agricultural Faculty may also be required.

Upon the satisfactory completion of work for an advanced degree, the candidate may be recommended by the Agricultural Faculty to the Board of Curators for the degree.

IV. Department of Engineering.

The requirement for admission to candidacy for advanced degrees in Civil Engineering, Electrical Engineering, Mechanical Engineering and Chemical Engineering is the undergraduate degree of Bachelor of Science in Civil Engineering, Electrical Engineering, Mechanical Engineering, or Chemical Engineering, respectively, from this University, or an equivalent degree.

Candidates for the degrees of Civil Engineer (C. E.), Electrical Engineer, (E. E.), Mechanical Engineer, (M. E.), or Chemical Engineer, (Ch. E.), must complete satisfactorily one year of graduate work in residence, or two years of professional practice and graduate work *in absentia*, the equivalent of twelve hours University credit, and present an acceptable thesis.

The thesis subject shall be presented to the Dean of the Department of Engineering on or before December 1, and the thesis itself on or before May 1, of the given year. The graduate work is under the direct charge of the heads of the respective departments.

I. COLLEGE OF ARTS AND SCIENCE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President, and Professor of Ancient and Medieval History.

JOHN CARLETON JONES, A. B., Ph. D.,
Professor of Latin Language and Literature, and Dean of the College.

EDWARD ARCHIBALD ALLEN, Litt. D.,
Professor of English Language and Literature.

WILLIAM GWATHMEY MANLY, A. M.,
Professor of Greek Language and Literature.

JOHN PICKARD, A. B., Ph. D.,
Professor of Classical Archaeology and the History of Art, and Curator of the Museum of Classical Archaeology.

BENJAMIN FRANKLIN HOFFMAN, B. L., M. L.,
Professor of Germanic Languages.

RAYMOND WEEKS, A. B., Ph. D.,
Professor of Romance Languages.

WILLIAM GEORGE BROWN, B. S., Ph. D.,
Professor of Chemistry, and Director of the Laboratories.

JOHN RUTLEDGE SCOTT, A. B., A. M.,
Professor of Elocution.

ISIDOR LOEB, B. S., LL. B., Ph. D.,
Professor of Political Science and Public Law.

CURTIS FLETCHER MARBUT, B. S., A. M.,
Professor of Geology and Mineralogy, and Curator of the Geological Museum.

GEORGE LEFEVRE, A. B., Ph. D.,
Professor of Zoology, and Curator of Zoological Museum.

CHARLES A. ELLWOOD, Ph. B., Ph. D.,
Professor of Sociology.

CHARLES WILSON GREENE, A. B., A. M., Ph. D.,
Professor of Physiology and Pharmacology.

MAX MEYER, Ph. D.,
Professor of Experimental Psychology.

CLARK WILSON HETHERINGTON, A. B.,
Professor of Physical Training, and Director of Gymnasiums and Athletics.

†JESSE ELIPHALET POPE, B. S., M. S., Ph. D.,
Professor of Economics and Finance.

FREDERICK HANLEY SEARES, B. S.,
Professor of Astronomy, and Director of the Lowe Observatory.

BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,
Professor of Botany.

CLARENCE MARTIN JACKSON, B. S., M. S., M. D.,
Professor of Anatomy and Histology.

ALBERT ROSS HILL, A. B., Ph. D.,
Professor of Educational Psychology.

EARLE RAYMOND HEDRICK, A. B., A. M., Ph. D.,
Professor of Mathematics.

FRANK PIERREPONT GRAVES, Ph. D., Litt. D., LL. D.,
Professor of History and Principles of Education.

HERMANN BENJAMIN ALMSTEDT, B. L., Ph. D.,
Professor of Germanic Languages.

OSCAR MILTON STEWART, Ph. B., Ph. D.,
Professor of Physics.

NORMAN MACLAREN TRENHOLME, A. M., Ph. D.,
Professor of History.

SIDNEY CALVERT, B. Sc., A. M.,
Professor of Organic Chemistry.

HENRY MARVIN BELDEN, A. B., Ph. D.,
Professor of English Language and Literature.

JONAS VILES, A. B., A. M., Ph. D.,
Professor of American History.

EVA JOHNSTON, A. M., Ph. D.,
Assistant Professor of Latin.

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†On leave of absence, session 1906-07.

WINTERTON CONWAY CURTIS, A. B., A. M., Ph. D.,
Assistant Professor of Zoology.

WILLIAM BAIRD ELKIN, A. B., Ph. D.,
Acting Assistant Professor (in charge) of Philosophy.

HERMAN SCHLUNDT, B. S., M. S., Ph. D.,
Assistant Professor of Physical Chemistry.

CAROLINE TAYLOR STEWART, A. B., A. M., Ph. D.,
Assistant Professor of Germanic Languages.

JOHN SITES ANKENEY, Jr., A. B.,
Assistant Professor (in charge) of Freehand Drawing.

JESSE HARLIAMAN COURSAULT, A. B., A. M., Ph. D.,
Assistant Professor of Philosophy of Education.

OLIVER DIMON KELLOGG, A. B., A. M., Ph. D.,
Assistant Professor of Mathematics.

MURRAY SHIPLEY WILDMAN, A. B., Ph. D.,
Assistant Professor (in charge) of Economics.

EDNA D. DAY, B. S., M. S., Ph. D.,
Assistant Professor of Home Economics.

WILLIAM MORTON DEY, A. B., A. M., Ph. D.,
Assistant Professor of Romance Languages.

LEWIS DARWIN AMES, A. B., A. M., Ph. D.,
Assistant Professor of Mathematics.

HENRY LAMAR CROSBY, A. B., A. M., Ph. D.,
Assistant Professor of Greek.

ARTHUR HENRY ROLPH FAIRCHILD, A. B., A. M., Ph. D.,
Assistant Professor of English.

FLOYD WILKINS TUTTLE, A. B.,
Instructor in Physical Training.

GRACE SARA WILLIAMS, A. B.,
Instructor in Romance Languages.

ELEXIOUS THOMPSON BELL, B. S., M. D.,
Instructor in Anatomy.

CHARLES ALBERT PROCTOR, A. B.,
Instructor in Physics.

HERBERT MEREDITH REESE, A. B., Ph. D.,
Instructor in Physics.

†ALBERT GRANBERY REED, A. B., A. M.,
Instructor in English.

†CARL CONRAD ECKHARDT, Ph. B.,
Instructor in History.

†LOUIS INGOLD, A. B., A. M.,
Instructor in Mathematics.

HOWARD VERNON CANTER, A. B., Ph. D.,
Instructor in Latin.

WILHELMUS DAVID ALLEN WESTFALL, A. B., Ph. D.,
Instructor in Mathematics.

ROBERT LACEY BÖRGER, A. B.,
Instructor in Mathematics.

HOMER LEROY SHANTZ, B. S., Ph. D.,
Instructor in Botany.

CAROLINE McGILL, A. B., A. M.,
Instructor in Anatomy.

MARLOW ALEXANDER SHAW, A. B., Ph. D.,
Instructor in English.

THOMAS JAMES RILEY, A. B., A. M., Ph. D.,
Instructor in Sociology.

WILLIAM JAMES MONILAW, A. M.,
Instructor in Athletics.

FLORENCE DELIA ALDEN, A. B.,
Instructor in Athletics.

JAMES WILLIAM PUTNAM, Ph. B., A. M.,
Instructor in Political Science and Economics.

SAMUEL DAVID GROMER, B. S., A. M.,
Instructor in History and Economics.

CLARENCE CARY CRAWFORD, A. B., A. M., Ph. D.,
Instructor in History.

ROY EVERETT SPENCER, A. B.,
Acting Instructor in English.

ERNEST EARL MORLAN, A. B., A. M.,
Assistant in Chemistry.

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†On leave of absence, session 1906-1907.

MARY SHORE WALKER, A. B., A. M.,
Assistant in Mathematics.

STANLEY SISSON,
Assistant in Experimental Psychology.

ERNEST VAN COURT VAUGHN, B. L., A. M.,
Assistant in History.

GEORGE WASHINGTON TANNREUTHER, A. B., A. M.,
Assistant in Zoology.

BAYARD FRANKLIN FLOYD, A. B.,
Assistant in Botany.

HARLEY EARL HOWE, B. S.,
Assistant in Physics.

EARL LOCKRIDGE BRADSHER, A. B., A. M.,
Assistant in English.

FREDERICK VALENTINE EMERSON, A. B.,
Assistant in Geology.

WALKER S. PEMBERTON, B. S.,
Assistant in Mathematics.

PETER THOMPSON HEDGES, B. S.,
Assistant in Mathematics.

FRANK WRIGHT LIEPSNER, B. S.,
Assistant in Chemistry.

DOUGLAS WORTHINGTON SWIGGETT, A. B.,
Assistant in English.

FRANCIS JAMES BULLIVANT,
Student Assistant in Physics.

CLAUDE BURTON HUTCHISON,
Student Assistant in Botany.

WALTER EDMOND DANDY,
Student Assistant in Anatomy.

JOSEPH SUMMERS, A. B., A. M.,
Analyst in Physiology.

ISADORE ANDERSON, A. B.,
Student Assistant in Athletics.

BERT HOGAN,
Student Assistant in Zoology.

KATHERINE HELM,
Student Assistant in Athletics.

LAKE BREWER,
Student Assistant in Physiology.

JOHN WILLIAM READ,
Student Assistant in Chemistry.

RANDOLPH EUGENE BURGER,
Problem Reader in Chemistry.

LOUIS HARRY WINKLER,
Student Assistant in Physics.

RUTH OLIVE COVINGTON,
Problem Reader in Mathematics.

EULA ADELINE WEEKS,
Problem Reader in Mathematics.

‡ARTHUR ALLEN SNEED,
Student Assistant in Physiology.

MARION SYLVESTER DOOLEY,
Student Assistant in Physiology.

GENERAL REGULATIONS.

Requirements for Admission:

For information in regard to requirements for admission, see pages 55-71.

Tuition Charges and Fees:

For information in regard to tuition charges, fees, scholarships, etc., see pages 78-80 and 84-6.

Elective System:

Work in the College of Arts and Science is largely elective; that is, the student makes such choice and combination of the studies offered in this Department as he desires, subject to certain restrictions explained below under the Requirements for Graduation. Election is made for the entire session, except in the case of studies which are offered for only one semester. Those who elect such studies in the First semester must make a new election at the beginning of the Second semester.

At the opening of the session each student is required to enter

‡Died, March 5, 1907.

on a blank form provided for that purpose, called a study card, a list of the studies he wishes to pursue. The student should consult the Dean in making out this card. He must also fill out a course card for each course entered on the study card. The study card and the course cards must be presented for approval to the Dean not later than 5 o'clock p. m. of the day following the date of issue, and in no case later than 5 o'clock p. m. on Saturday of the first week of the semester.

The student may not take more than 16 nor less than 12 hours a week (Physical Training not counted). But students who are candidates for the Life Certificate in the Teachers College may take 3 hours of Industrial work in any year in addition to 15 hours of work in the College of Arts and Science. This Industrial work does not count toward the A. B. degree. When a student has elected a course that runs through both semesters, he must abide by his election unless he fails in the work of the First semester or can secure the permission of the Faculty to abandon it or to make a substitution.

Each Professor determines the special requirements for admission to the different courses offered by him or his Assistants. These requirements are for the most part stated in the detailed explanation of the courses. The student should consult each Professor under whom he wishes to take work before making his election.

REQUIREMENTS FOR GRADUATION.

The degree of Bachelor of Arts (A. B.) is the only undergraduate degree conferred in the College of Arts and Science. In order to become a candidate for this degree a student must have met the following requirements:

1. He must have been regularly admitted to the Department. See page preceding.

2. He must complete during the first two years of his course:

(a) Six hours of English; (b) Six hours of History; (c) Six hours of Ancient Languages, Literature and History; (d) Six hours of Modern Languages; (e) Six hours of Mathematics, or Logic and Psychology; (f) Six hours of Physical Science (Astronomy, Chemistry, Geology and Mineralogy, Physics); (g) Six hours of Biological Science (Anatomy and Histology, Botany, Physiology, Zoology).

These requirements may be waived on the following conditions:

If the student presents four units for entrance in one of the requirements (b) or (c), or three in (d) or (e), or two in (f) or (g), he will be excused from that requirement. *Such exemptions do not excuse him from the requirement of total hours stated in* (4).

By "hour" is meant one period a week for one semester.

3. During the last two years of his course he must complete—(a) One major of at least 24 hours, to be chosen from one of the six divisions of studies, for students in the College of Arts and Science, of which at least 12 hours must be from courses offered for "Undergraduates and Graduates," or for " Graduates;" (b) One minor of at least 12 hours which must be taken in a division other than that in which the major is taken.

Work done to meet the requirements in (2) cannot be included in counting up hours for a major or a minor.

The courses making up the major must be approved by a professor chosen by the student as adviser from the division in which the major is made; and the minor must also be approved by a professor in the division in which the minor is made. The student must, on or before the beginning of his Junior year, notify in writing the Committee on Graduation of his selection of his major and minor. The six divisions of academic studies are as follows:

Classical Languages (Classical Archaeology and History of Art, Greek, Latin); Modern Languages (English, German, Romance Languages); Mathematics and Physical Sciences (Astronomy, Chemistry, Geology and Mineralogy, Mathematics, Physics); Biological Sciences (Anatomy and Histology, Botany, Physiology, Zoology); Philosophy and Education (Education, Philosophy, Experimental Psychology); History and Political Science (Economics, History, Political Science and Public Law, Sociology).

4. He must have completed a total of at least one hundred and twenty (120) hours. Besides the work offered in the six divisions, work in Freehand Drawing and Elocution may be counted towards graduation. The following courses in other Departments are open as electives to students in the College of Arts and Science, and the candidate may present them (to an amount not exceeding nine (9) hours in all, except in case of work in the Department of Law) as a part of the one hundred and twenty (120) hours required for graduation.

From the School of Agriculture: Entomology, for not more than six hours; Agricultural Chemistry, for not more than six hours; Home Economics, for not more than nine hours.

From the Department of Medicine: Hygiene, for not more than three hours.

From the Department of Engineering: Thermodynamics and Kinematics each, for not more than three hours; Descriptive Geometry and Alternating Currents each, for not more than six hours; Mechanics of Engineering, for not more than nine hours.

From the Department of Law: Seniors may elect from the First year's work in Law to an amount not exceeding twenty-two hours. Under special circumstances this privilege may be extended to Juniors with the consent of the Deans of the College of Arts and Science and the Department of Law. Students in the College of Arts and Science may elect Physical Training or Military Science three hours a week for four semesters and receive a credit towards the degree of Bachelor of Arts of one hour for each semester.

The candidate may also offer, as part of the one hundred and twenty (120) hours, work done in the Summer Session. (See Appendix).

Credit will also be given for work done in any institution of good standing in the following courses:

1. The Bible as Literature. 2.
2. History of the Jews. 3.
3. Comparative Religions. 3.
4. Hebrew Language and Literature. 6.

The total credit for such courses will be subject to the rule governing the maximum credit granted for courses elected in other departments.

Until September, 1910, the following work may be presented by a candidate in place of (2) and (3):

Completion of at least twelve (12) hours in each of three subjects and at least twenty-four (24) hours in a fourth subject, the subjects to be chosen from the following group:

Anatomy and Histology; Astronomy; Botany; Chemistry; Classical Archaeology and History of Art; Economics; Education; Elocution; English; Experimental Psychology; Freehand Drawing; Geology and Mineralogy; Germanic Languages; Greek; History; Latin; Mathematics; Philosophy; Physics; Physiology; Political Science and Public Law; Romance Languages; Sociology; Zoology.

The following combinations of subjects may be counted for a major (24 hours) or a minor (12 hours), provided neither of the subjects entering into the combination has been counted separately as a major or minor: Economics and Sociology; History and Political Science; Philosophy and Experimental Psychology. Course I in Zoology may be counted toward a major or minor in Physiology.

COURSES IN DETAIL.

(Courses designated by a number with the letter a attached, thus: 4a, 6a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, 6b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Capital letters attached to the number of the course have no reference to semester or session.)

Anatomy and Histology.

Professor JACKSON; Dr. BELL; Miss MCGILL.

For Undergraduates.

1a, 1b. **Elementary Anatomy.** A course designed to give a knowledge of the general structure of the human body. No credit toward the Medical degree is allowed for this course. Either semester may be taken separately. The First semester includes the skeleton, blood-vessels, muscles and surface form of the body. In the Second semester, the viscera, nervous system and sense organs are studied. Lectures, recitations and demonstrations (gross and microscopic). M. W. F., at 11:30.

2a. **Osteology.** A complete disarticulated human skeleton is issued to every two students for use during the course. Recitations and demonstrations. T. Th. S., at 8.

3. **Normal Histology.** A study of the microscopic anatomy of the body. Each student prepares, stains and mounts permanently about 100 specimens for study. Lecture, T., at 9; Laboratory, T., 10:30-12:30, Th. S., 9-12.

4. **Dissection.** The upper and lower extremities are dissected in the first semester; the thorax and abdomen, in the second. Laboratory, M. W. F., at 1:30-4.

5b. **Neurology.** A study of the central nervous system and sense organs. Laboratory, with one lecture a week. M. W. F., 8-10.

6a. **Advanced Dissection.** Dissection of the head and neck. Laboratory M. W. F., 1:30-4.

For Undergraduates and Graduates.

7b. **Topographic Anatomy.** A study of the topography of the various organs by means of serial sections through the entire body. Laboratory, M. W. F., 1:30-4.

8b. **Advanced Human Embryology.** Based upon a study of hu-

man and mammalian embryos of various stages. Especial attention is paid to the histogenesis. Open only to students who have had (or are taking) the elementary courses in Anatomy, Histology and Embryology. *One lecture and two laboratory periods a week.* Hours to be arranged.

9. **Advanced Anatomy or Histology.** The character of this work may be varied to suit individual needs. In connection with this course, a seminary is held once a week (and may be taken separately, if desired), at which reports on current literature and research work in progress, are discussed. Hours to be arranged.

Primarily for Graduates.

10. **Research.** Problems will be assigned to students properly qualified for investigation in Anatomy or Histology. A reading knowledge of German and French is required. Hours to be arranged.

Course 1a, 1b is open to Freshmen. For the other courses, Zoology 1, or equivalent, is required as preparation.

Astronomy.

Professor SEARES.

For Undergraduates.

1. **Descriptive Astronomy.** A general account of the methods and fundamental facts of astronomical science, together with an untechnical consideration of the problems upon which astronomers are engaged at the present time. Constellation study and demonstration exercises with the instruments of the Laws Observatory. M. W. F., at 10:30.

2. **Spherical and Practical Astronomy.** Lectures, recitations, and practical work with the instruction of the Laws Observatory. Open to students taking course 1 who have completed Elementary Mathematics and General Physics. Hours to be arranged.

3. **Spherical and Practical Astronomy.** Prescribed for Junior students in Civil Engineering. Recitation, T., at 10:30; observatory period to be arranged.

For Undergraduates and Graduates.

4. **History of Astronomy.** Historical development of the science; its spirit; its influence on other sciences. The development of astronomical theories as an exemplification of the methods of

science in general. Open to students who have completed course 1. M. W. F., at 2.

5. Advanced Spherical and Practical Astronomy. Open to students who have completed course 2 or course 3. Three units credit.

6a. Numerical Computation. Methods and precepts for the facilitation of numerical calculation. Development of the principal formulæ of Interpolation and Mechanical Quadratures, with extensive applications to the problems of Astronomy and Geodesy. Two units credit.

7b. Method of Least Squares, with applications to problems of Astronomy and Geodesy. Two units credit.

Primarily for Graduates.

8. Theory of Orbits and Special Perturbations.
9. Celestial Mechanics.
10. Research.

Hours to be arranged for courses 5 to 10.

The Laws Observatory:

The practical work of the Department of Astronomy is carried on with the instruments of the Laws Observatory.

The observatory building is 84 feet long from east to west, and from 14 to 30 feet wide. The equipment consists of a 7 1-2 inch equatorial refracting telescope by Merz and Soehne, of Munich, a 2 1-10 inch transit instrument by Brunner, of Paris, a 2 1-8 inch altitude and azimuth instrument by E. & G. W. Blunt, of New York, a Pickering stellar photometer and a disc photometer by Brashear, a theodolite, sidereal and mean-time clocks, sidereal break-circuit chronometer, chronograph, sextants, micrometer, spectroscope, and outfit of smaller instruments.

Clocks and instruments are mounted on piers of solid masonry, isolated from the floors and walls of the buildings, and are provided with the usual electrical connections. The dome of the telescope is 18 feet in diameter. A cone 14 feet in diameter, revolving on balls, shelters the altitude and azimuth instrument.

In the year 1880, Dr. S. S. Laws, then President of the University, contributed largely from his private funds toward the improvement of the observatory building and instruments. In recognition of this generosity the Board of Curators named the observatory in his honor.

The Laws Astronomical Medal:

The medal, called the "S. S. Laws Astronomical Medal," is of-

fered annually at Commencement to the student who stands highest in Astronomy, and has at the same time attained a high average of general scholarship. An original thesis written on some astronomical subject, and showing capacity for scientific investigation, is required.

Botany.

Professor DUGGAR; Dr. SHANTZ; Mr. FLOYD; Mr. HUTCHISON.

For Undergraduates.

1a. **General Botany.** The first half of the semester is devoted to a study of cell structure and the fundamental principles of plant physiology. The student is taught to set up experiments and to keep records of observations on plant activities. In the second half of the semester, a series of typical cryptogams is studied from the point of view of development. Lecture, T., at 10:30; Laboratory, Section I, T. Th., 1:30-4; Section II, W. F., 1:30-4; Section III, Th. S., 10-12:30. Professor DUGGAR; Dr. SHANTZ; Mr. FLOYD; Mr. HUTCHISON.

2b. **General Botany.** This course continues the study of representative groups begun in 1a, dealing with the morphology and the life histories of certain gymnosperms and angiosperms, concluding with some general work in Ecology. Lecture T., at 10:30. Laboratory, Section I, T. Th., 1:30-4; Section II, W. F., 1:30-4; Section III, Th. S., 10-12:30. Professor DUGGAR; Dr. SHANTZ; Mr. FLOYD; Mr. HUTCHISON.

The foundation work in Botany is offered through courses 1a and 2b; and these courses or their equivalents are prerequisites for all other regular work in the subject. They represent a continuous treatment of general principles, but may often be taken separately to advantage. 1a, for example, is more important for students taking courses in Medicine or Home Economics.

3a. **Morphology and Classification of Seed-bearing Plants.** A comprehensive study of representative groups and their relationships. Lecture, W., at 9; Laboratory, T. Th., 1:30-4. Dr. SHANTZ.

4b. **Ecology.** A study of the environment and its effects upon the plant, followed by a study of plant association, invasion, succession, and geography. Lecture, W., at 9; Laboratory, T. Th., 1:30-4. Dr. SHANTZ.

5a. **Economic Plant Geography.** A study of the distribution of useful plants as grown or exploited with reference to environment. Lectures, *once a week*. Hour to be arranged. Professor DUGGAR.

For Undergraduates and Graduates.

6. **Mycology.** The morphology and physiology of representative groups of fungi, including the bacteria; special attention being given also to culture methods, fungous diseases, and the culture and development of fleshy fungi. (This course will not be offered in 1907-08, alternating with 7b.) Lecture, M., at 10:30; Laboratory, Th. S., 10-12:30 (or by arrangement). Professor DUGGAR.

7b. **Parasitic Fungi.** This course, dealing only with fungi producing plant diseases, is much more restricted than course 6, and these two courses will be given in alternate years. (Offered in 1907-08). Lecture, M., at 10:30; Laboratory, Th. S., 10-12:30 (or by arrangement). Professor DUGGAR.

8a. **Embryology and Cytology.** A comparative study of the embryology of representative green plants, cytology and microtechnique. Lecture, F., at 9; Laboratory, W. F., 1:30-4. (May not be offered in 1907-08.)

9a. **Advanced Physiology.** Lectures and experimental work on absorption, nutrition and growth, and the effects of external stimuli upon plant functions and structures. Lecture, W., at 10:30; Laboratory, T. Th., 1:30-4. Professor DUGGAR.

10a. **The Principles of Evolution, as applied to the study of plants.** *Once a week.* Professor DUGGAR.

11. **Special Problems.** A preliminary to graduate research, and in exceptional cases, special training in lines not sufficiently emphasized by general courses, as in plant pathology and bacteriology. Laboratory work and a bi-weekly conference for presentation of reports on work assigned. Adequate fundamental work is essential. *Three or more times a week.* Hours to be arranged. Professor DUGGAR; Dr. SHANTZ.

Primarily for Graduates.

12. **Research.** Problems for investigation may be assigned in any of the general lines of work for which the student may be best prepared. *Three or more hours.* Hours to be arranged. Professor DUGGAR; Dr. SHANTZ.

13. **Seminary.** The seminary offers to advanced students an opportunity to become familiar with current work in Botany. Reports on appropriate topics will be required, as well as reports on any research work in progress. *Once a week.* Professor DUGGAR.

Chemistry.

Professor BROWN; Professor CALVERT; Assistant Professor SCHLUNDT; Mr. MORLAN; Mr. LIEPSNER; Mr. BURGER; Mr. READ; Mr. ————.

For Undergraduates.

1. **General Inorganic Chemistry.** Lectures, laboratory work, problems and recitations. Lectures, Section I, M. W., at 9, and Section II, M. W., at 11:30; Recitation, F., at 8, 9, 10:30, and 11:30; Laboratory four (see schedule of hours). *Six hours.*

2. **General Inorganic Chemistry.** Lectures, laboratory work, problems and recitations. Lectures, Section I, M. W., at 9, and Section II, M. W., at 11:30; Recitations, F., at 8, 9, 10:30, and 11:30; Laboratory two (see schedule of hours.) *Four hours.*

5a or 5b. **Organic Chemistry.** An elementary course designed for those who wish a brief survey of the subject and have not time for the more extended course 11. Lectures and laboratory work. *Three times a week.* Professor CALVERT.

7a or 7. **Qualitative Chemical Analysis.** Laboratory work, recitations and lectures. M. W. F., at 1:30. *Three times a week.*

8b. **Glass Working.** *Once a week.* Mr. MORLAN.

9. **Inorganic Preparations.** *Three times a week.*

10. **Technical Chemistry.** *Three times a week.* Required of Chemical Engineering students.

For Undergraduates and Graduates.

11. **Organic Chemistry.** Lectures and recitations. M. W., at 4; Laboratory one. *Three hours.* Professor CALVERT.

11A. **Organic Chemistry.** Lectures and recitations (the same as 11). Laboratory two. *Four hours.* Professor CALVERT.

12. **Preparation of Organic Compounds and Organic Analysis.** Laboratory course. May be taken with course 11, or 11A. *Three times a week.* Professor CALVERT.

13. **Industrial Organic Chemistry.** Starch, glucose, sugar, fats, oils, soaps, dyes, and other industries. Lectures and recitations. *Three times a week.* Professor CALVERT.

17. **Quantitative Organic Analysis.** Quantitative analysis of commercial organic products, such as alcohols, aldehydes, organic acids, glycerine, oils and fats, carbohydrates, petroleum products, soaps, etc. *Three times a week.* Professor CALVERT.

18. **Physical Chemistry.** Lectures, recitations, and laboratory work. This course should be preceded by courses in General Inor-

ganic and Organic Chemistry or accompanied by course 11, or 11A. A knowledge of elementary, differential and integral calculus is desirable. Lectures two, at 8; Laboratory one. *Three hours.* Assistant Professor SCHLUNDT.

18A. **Physical Chemistry.** Lectures and recitations (the same as course 18). Laboratory two. *Four hours.* Assistant Professor SCHLUNDT.

19. **Physical Chemistry.** Laboratory work supplementary to course 18. *Three times a week.* Assistant Professor SCHLUNDT.

20. **Advanced Inorganic Chemistry.** Lectures and recitations. *Three times a week.*

21a and 21b. **Quantitative Chemical Analysis.** Laboratory work. *Three times a week.*

22. **Advanced Quantitative Chemical Analysis.** *Six times a week.*

23. **Electro-chemistry.** Lectures, recitations and laboratory work in electro-chemical measurements. Lectures two, Laboratory one. *Three hours.* Assistant Professor SCHLUNDT.

24. **Electro-chemistry.** Laboratory work supplementary to course 23. *Three times a week.* Assistant Professor SCHLUNDT.

26. **Radio-activity.** Lectures, experimental work, and recitations on the radio-active types of matter and atomic disintegration. The work is based on Rutherford's "Radio-activity." *Three times a week.* Assistant Professor SCHLUNDT.

29b. **Chemical Theory.** Lectures and recitations. *Three times a week.*

30a. **History of Chemistry.** Lectures and recitations. *Three times a week.*

Courses 29b and 30a should be preceded by courses 1 or 2, 11 and 18.

Primarily for Graduates.

31a and 31b. **Advanced Organic Chemistry.** Lectures on selected topics, supplemented by reading and reports on classical researches. *Three times a week.* Professor CALVERT.

35. **Advanced Physical Chemistry.** Lectures on selected topics, supplemented by reading and reports on classical researches. A reading knowledge of German and French is required. Credit and hours to be arranged. Assistant Professor SCHLUNDT.

40a and 40b. **Mathematical Chemistry.** Lectures on the applications of the operations of the higher mathematics to the study of chemical reactions. *Twice a week.* Mr. MORLAN.

50. **Research.** This will consist principally of original work and investigation in (1) Inorganic, (2) Organic, and (3) Physical Chemistry, and will be adapted in some measure to individual cases.

Where no hours are given for the course these will be arranged.

A meeting is held weekly, at which reports on current literature, abstracts of special lines of research and the results and progress of investigations are presented for the information and discussion of those particularly interested in Chemistry and its applications. F., at 4.

Classical Archaeology and the History of Art.

Professor PICKARD.

For Undergraduates.

1. **History of Modern Painting.** Particularly of French, English, and American Painting. Lectures and collateral reading. Critical study of representative pictures by means of lantern slides, photographs and other reproductions. W. F., at 2.

2. **Classical Mythology.** The myths as they are represented in literature and in Greek and Roman Art. Recitations and illustrated lectures. S., at 11:30.

For Undergraduates and Graduates.

5. **History of Modern Belgian and Modern Dutch Painting.** Lectures and collateral reading. Critical study of representative pictures by means of lantern slides, photographs, and other reproductions. T. Th., at 4.

6. **History of Greek Art.** A preliminary study of Assyrian and of Egyptian Art, followed by a study of the development of Greek Architecture and Sculpture. Lectures, collateral readings, essays, with constant use of the lantern, photographic reproductions, and models and casts in the Museum of Classical Archaeology. Greek History (Greek 6a) is recommended to the students of this course. T. Th. S., at 2.

7a. **Mycenaean Art or Art of Primitive Greece.** The earliest discoveries at Mycenæ, Tiryns and elsewhere will not be neglected, but special attention will be given to the most recent publications on Troy, Crete, and the Argive Heraeum. M., at 8.

8b. **Introductory Study of Greek Vases and Vase Paintings.** Reference book, Pottier's Catalogue of the Louvre Vase Collections. M., at 8.

While a knowledge of the Greek language is not an absolute prerequisite for 7a and 8b, these courses are intended for advanced students in Greek.

9. **Etruscan and Graeco-Roman Art.** This course should be preceded by course 6. It will deal with the earliest art of the Italian Peninsula, endeavor to show how this art reached its highest development among the Etruscans, how Etruscan influenced early Roman Art, how later Roman Art grew out of early Roman and late Greek Art modified by the circumstances and character of the Romans. Roman History (Latin 12b) is recommended to students in this course. M. W., at 9.

10. **Roman Life.** A systematic study of the topography of Rome and of the extant remains particularly of Rome and Pompeii. Lectures and readings. Illustrated by the use of plans, maps, and lantern slides. As supplementary to this course, Roman Public and Private Life (Latin 5) is recommended. T. Th., at 11:30.

11. **History of Renaissance Painting.** *First Semester*: Italian Painting. *Second Semester*: Painting of the Netherlands and of Germany. This course should be preceded or accompanied by European History (History 1). With Italian Painting. The Culture and Civilization of Renaissance (History 13b) is also earnestly recommended. M. W. F., at 11:30.

13. **Masterpieces of Architecture, Sculpture, and Painting of Classical, Renaissance and Modern Times.** Lectures fully illustrated with the stereopticon. This course aims to show the historical development of art by the discussion of some of the finest examples in each of the three divisions mentioned. M., at 2.

Primarily for Graduates.

14. **Topography and Monuments of Athens.** Frazer's Pausanias will be taken as the basis of discussion. A reading knowledge of Greek, French and German required. T. Th., at 8.

15. **Archaeological Seminary.** Hours and work to be arranged.

As supplementary to all courses offered in the history of Painting and of Sculpture the Theory of Representation (Freehand Drawing) is recommended.

Museum of Classical Archaeology:

The museum occupies the third floor of the west wing of Academic Hall. It is supplied with models of temples representing the three orders of Greek Architecture, and with plaster casts of repre-

sentative specimens of Greek and Roman sculpture. These are arranged chronologically, and on the walls are hung many framed photographs of other works of classic art. Many casts and four original specimens of Egyptian sculpture have been recently added. The museum possesses a large number of unframed photographs and an extensive collection of lantern slides.

Renaissance and Modern Painting:

The collections of photographs, lantern slides, and other means of illustrating courses in these subjects have been very largely increased during the past year. For reproducing the color of the originals a *Kromskop* and lantern slides made by the *trichrome* process are used. The picture gallery near the Museum of Classical Archaeology is hung with carbon photographs, photogravures, and other reproductions of masterpieces of painting.

Economics.

Professor POPE;* Assistant Professor WILDMAN (in charge); Mr. PUTNAM; Mr. GROMER.

For Undergraduates.

As preparatory to the work in Economics, students are advised to take course 1 in History. The courses in Economics are not open to Freshmen.

1. **General Economics.** This course or its equivalent is a prerequisite to all others offered in this department except 2a and 2b, 3a and 3b. Its purpose is to give students a broad grasp of the fundamental principles of the science, a general knowledge of its scope and method, a brief survey of economic history and of the development of scientific thought on this subject. Section I, M. W. F., at 8; Section II, at 10:30; Section III, at 3.

2a. **Principles of Economics.** This course is intended to present a brief outline of economic theory adapted to Seniors or other mature students whose obligations in other departments are so great as to prevent their taking the general course. Members of lower classes or persons to whom the general course is available will not be registered for this course. *Two hours a week.* Section I, T. Th., at 8; Section II, at 9; Section III, at 9.

2b. **Agricultural Economics.** A study of those principles of Economic Science which are particularly concerned with Agriculture and the business relations of the farmer. In so far as possible in

*On leave of absence.

the time allowed, attention will be given to markets, banks, transportation, tariffs, and such other institutions and conditions as affect this industry. Open to students who have taken course 1 or 2a. *Two hours a week.* T. Th., at 9.

3a. **Industrial History.** It is the purpose of this course to give the student as clear a conception of the conditions of economic life and activity as the time allotted will permit. After a brief review of the Industrial Revolution in England in the 18th century, the greater part of the course will be devoted to the industrial development of the United States. *Twice a week.* T. Th., at 11:30.

3. **Commercial Geography.** This course is a study of those geographical facts touching commerce and industry which are thought to be most significant. Commercial phenomena are treated as the effect of conditions that determine the character and quantity of trade. Not only geographical, but institutional influences such as inventions, methods of transportation and industrial processes are made prominent. Not given in 1907-08.

For Undergraduates and Graduates.

4a. **Science of Finance.** While this course is chiefly concerned with the principles of taxation, such problems as those of public expenditures, budgetary practice and the proper relations of the State to industry and trade are also involved. This course is open to those who have taken course 1 in Economics, and should be followed by course 7b in Political Science, and 4b in this department. *Three times a week.* M. W. F., at 2.

4b. **Financial History of the United States.** This course presents a study of the financial operation of the Federal Government from the organization of the Treasury Department to the present time. Various phases of our financial practice will be examined and criticised. The course is particularly adapted to the needs of students who have done the work of courses 4a and 5. *Three times a week.* Not given in 1907-08.

5. **Money, Credit, and Banking.** This course is concerned with the origin and history of Money, and the scientific principles involved in Monetary Theory. The purpose will be to form correct notions regarding the nature and importance of a proper standard of value and system of currency. A study of the principles of Banking and Credit will be illustrated by a comparison of the banking systems and methods of leading nations. *Two hours a week each semester.* T. Th., at 10:30. Given in 1907-08.

6b. **Economics of Transportation.** A history of the develop-

ment of transportation agencies, and a study of the principles of rate-making and rate-regulation. *Two hours a week.* T. Th.,

7b. **Industrial Organization.** This course is chiefly concerned with the nature and development of the modern industrial corporation. Attention will be directed to problems of organization and management, the relation of stock-holders, bond-holders, and patrons. *Two hours a week.* T. Th., at 9.

8a. **Insurance.** The general principles of the different forms of personal and property insurance and the main problems connected with each. *Three times a week.* (Not given in 1907-08.)

8b. **The Tariff.** This course is open to students who have taken course 1 or 2a, but students are advised to take 3b also by way of further preparation. *Three times a week.* Hours to be arranged. (Not given in 1907-08.)

Primarily for Graduates.

9b. **Problems of Labor.** This course presents a study of the special problems and interests of wage earners, such as the organization and policies of trades-unions, employers' associations, arbitration, profit-sharing, factory acts and other forms of labor legislation. *Three times a week.* M. W. F., at 2.

10b. **Advanced Economic Theory.** The principle work of this course is to examine the writings of the most prominent economists from the time of Adam Smith to the present with the purpose of constructing a true theory of value. *Three times a week.* (Not given in 1907-08.)

11. **Seminary.** Economic History of Missouri. Open to graduates and to others who in the opinion of the Instructor are fitted for the work of original investigation. Hours to be arranged.

Education.

Professor HILL; Professor GRAVES; Assistant Professor COURSAULT.

For Undergraduates.

1a or 1b. **Introduction to the Study of Education.** This course aims quite as much to train the student to proper habits and methods of study as to introduce him to the problems of Education. After some discussion of the meaning and aims of Education, of the art of study, and the methods of teaching, a general presentation of educational ideals and institutions in their historic setting is made. This course is not open to Juniors and Seniors. M. W. F., at 10:30. Either semester. Professor GRAVES.

4b. Educational Psychology. This course is designed to present the main facts concerning the nature and development of the mind during childhood and youth with special reference to the meaning of these facts to the teacher. It aims to prepare students for classroom work and for the Theory and Practice of Teaching and other courses in Education. It presupposes Experimental Psychology, 1a, or its equivalent. *Three times a week.* Hours to be arranged. Professor HILL.

6. History of Education. The educational theories and practices of the periods of history during which the basic principles of education have been formulated. Lectures, assigned readings, reports, and discussions. Monroe's History of Education, and Graves's Introduction to the History of Education are used as outlines of the work, but the subject is studied topically and reference will constantly be made to the sources. T. Th. S., at 3. Professor GRAVES.

For Undergraduates and Graduates.

10a. Educational Psychology. This course may be taken after course 4b or independently of it. More scientific methods of study will be followed than in 4b, and no student will be permitted to take it before the Junior year. It presupposes course 1 in Experimental Psychology or its equivalent. M. W. F., at 3. Professor HILL.

11b. Principles of Education. This course aims to develop the fundamental principles upon which educational procedure should rest, through a study of the biological, ethical, psychological, sociological, and religious aspects of education. It presupposes Experimental Psychology, 1a, and a general course in either Ethics or Sociology. M. W. F., at 3. Assistant Professor COURSAULT.

12a. Educational Classics. A more advanced course in the history of education than 6. A critical study of a few great classics in Education will be made a prominent feature of the course. It presupposes European History 1 and the general course in History of Education, 6, or their equivalent. *Three times a week.* Hours to be arranged. Professor GRAVES, or Assistant Professor COURSAULT.

13. History of Education in the United States. Research work on the development of the organization and administration of the public school system of this country. *Twice a week.* Professor GRAVES.

For Graduates.

40. Philosophy of Education. The purpose of this course is to give insight into the significance of education as a conscious effort towards human evolution by a study of its relation to the life

process, and thus, by giving clearer insight into the aims and methods of education help to make educational practice a rationalized endeavor rather than a mere routine. This course is open only to students who have had training in philosophy. *Three times a week.* Hours to be arranged. Assistant Professor COURSAULT.

41. **Seminary in Educational Psychology.** The special problems selected for study will depend upon the interests of those taking the course, the aim being to guide advanced students of Education in constructive work in the theory of education through a detailed study of a few aspects of mental development. The course is open only to students who have had considerable training in both Education and Psychology. *Twice a week.* Hours to be arranged. Professor HILL.

42. **Seminary in the History of Education.** A critical investigation of topics in connection with the thesis work for the graduate degrees. *Twice a week.* Hours to be arranged. Professor GRAVES.

For other courses in Education, see Teachers College, page 174.

Elocution.

Professor SCOTT.

The following courses are offered:

1. *First Semester*: Foundation theory and practice of vocal culture and expression. Breathing for conscious voice-support; phonetics, applied to syllabic form and enunciation; stress, inflection, quantity, and quality; phrasing; movement and rhythmus; melody; intonation, and cadence; analysis of short prose and poetic passages, for the recognition and establishment of the correlation of utterance with thought and feeling. Texts: Scott's Illustrative Examples, and Raymond's Orator's Manual. *Second Semester*: Principles of bearing, walk, and gesture; the practice of short oratorical extracts, with the study of *rationale* of appropriate utterance and action. To be followed by the study of more extended passages and entire compositions, prose and poetic, as readings and recitations. Text: Raymond's Orator's Manual. Section I, M. W. F., at 10:30; Section II, T. Th. S., at 11:30; Section III, M. W. F., at 2.

2. **Advanced Work.** The intrepretative study of plays, scenes, poems, and imaginative literature generally. Selections will be made jointly by the Professor in charge and the class, from Shakes-

peare, Milton, Scott, Tennyson, Browning, Dickens, Poe, Ruskin, and other representative writers. The emotional and spiritual, as well as the intellectual, elements of literature will be the objects of study and embodiment. This course is continuous through two semesters, and must be preceded by course 1. Section I, T. Th. S., at 10:30; Section II, M. W. F., at 11:30.

3. **Teachers Course.** This course is offered to students in the Teachers College, and counts toward the A. B. degree and the Life Certificate to teach. It must be preceded by course 1, and will comprise: (a) The criteria of vocal expression—time, pitch, quality, and force—with copious examples; (b) The method of teaching children to read. Text: S. H. Clark's "How to Teach Reading in the Public Schools." M. W. F., at 3.

Freshmen in the College of Arts and Science are not admitted to the classes in Elocution.

A credit of 3 hours is given for the completion of course 1; no credit is allowed for less than the full year's work. In courses 2 and 3 each semester's work receives a credit of 2 hours.

English.

Professor ALLEN; Professor BELDEN; Assistant Professor FAIRCHILD; *Mr. REED; Dr. SHAW; Mr. BRADSHER; Mr. SWIGGETT; Mr. SPENCER.

For Undergraduates.

1. **English Composition and Rhetoric.** Detailed study and practice in Construction and the Kinds of Composition. Lectures, exercises and themes; class-room study of literature illustrative of the different kinds of Composition. Sections I (Academic), IV & VIII (Engineering), M. W. F., at 8; Sec. II (Ac.), M. W. F., at 9; Sec. V (Engr.), M. W. F., at 10:30; Sec. I (Teachers Coll.), M. W. F., at 11:30; Secs. III & IV (Ac.), and Sec. I (Agriculture), T. Th. S., at 8; Secs. I & VI (Engr.), T. Th. S., at 9; Sec. II (T. Coll.), and Sec. III (Engr.), T. Th. S., at 10:30; Secs. II & VIII (Engr.), T. Th. S., at 11:30. Professor BELDEN; Assistant Professor FAIRCHILD; Dr. SHAW; Mr. BRADSHER; Mr. SWIGGETT; Mr. SPENCER.

1A. **Introduction to the Study of Literature.** An elementary course in the interpretation of literature, for the first year students. Lectures and quizzes. T. Th., at 11:30. Assistant Professor FAIRCHILD.

Courses 1 and 1A are open to all Freshmen. Before enrolling in other courses, students must get the consent of the instructor.

*On leave of absence, session 1906-07.

2a. Higher Composition. Exercises in Invention and Adaptation; daily themes. M. W. F., at 2. Dr. SHAW.

As the membership of this class will be limited to fifteen, students should apply promptly to the teacher for admission, submitting proofs of their ability to do advanced work in Composition.

2b. Higher Composition. Critical and constructive work in Short Story Writing. M. W., at 2. Dr. SHAW.

16a. Argumentation and Debating, Introductory Course. Principles of argumentation; briefs; weekly debates. Criticism of thought, use and arrangement of evidence, literary form and delivery. The class is limited to fifteen, but more than one section may be formed. Permission of the instructor is necessary before entering the course. T. Th. S., at 4. Mr. SPENCER.

16b. Debating, Advanced Course. Investigation of special questions; practice in longer debates. Criticism of thought, use and arrangement of evidence, literary form and delivery. Open to students who by competition win a place on the Debating Squad. Hours to be arranged. Mr. REED, assisted by the other members of the Debating Board.

17b. English Versification. W. F., at 10:30. Professor BELDEN.

3. English Literature, General View. *First Semester*: Chaucer to Shakespeare. *Second Semester*: Milton to the present. Recommended as preliminary to other courses in Literature. Section I, T. Th. S., at 9; Section II, T. Th. S., at 10:30; Section III, M. W. F., at 10:30. Professor ALLEN; Professor BELDEN; Assistant Professor FAIRCHILD.

4. English Literature of the Early Nineteenth Century. *First Semester*: The Poetry of the Romantic Revival, beginning with the publication of the Lyrical Ballads (1798) and ending with the death of Scott (1832). Special attention is given to Wordsworth, Coleridge, Byron, Shelley, and Keats. *Second Semester*: Prose, exclusive of the novel, from 1800 to 1860. The essay; criticism; and history. The authors stressed are Lamb, Hazlitt, De Quincy, Landor, Macaulay, and Carlyle. T. Th. S., at 10:30. Mr. SPENCER.

For Undergraduates and Graduates.

5. English Literature of the Eighteenth Century. *First Semester*: Dryden and Pope. *Second Semester*: Swift and the Essayists. M. W. F., at 9. Professor BELDEN.

7. Shakespeare. Eight to ten selected plays; class room reading and interpretation. A thesis is required. M. W. F., at 3. Assistant Professor FAIRCHILD.

8. **Shakespeare.** The course will be devoted to the critical study of the formal elements of the plays (versification, language, etc.), considered in their organic character, and in their significance for Shakespeare's development. Hours to be arranged. Courses 7 and 8 may be combined to make four hours' credit. Assistant Professor FAIRCHILD.

9. **Poetry of the Victorian Age.** Chief stress is laid on the poetry (narrative, lyric, and dramatic) of Tennyson, Browning, and Matthew Arnold; but some attention is given to the other poets of the period. M. W. F., at 10:30. Mr. REED.

10. **American Literature.** (a) Sectional development; (b) growth of nationality; (c) present tendencies. The leading writers in prose and verse will be considered, first, as to their intrinsic worth; and secondly, as illustrative of national development. T. Th. S., at 9. Professor BELDEN.

11a. **History of the English Language.** Lectures and text-book. T. Th. S., at 11:30. Professor ALLEN.

11b. **Study of Modern Prose Style, based upon the works of representative authors.** Essays and reports. T. Th. S., at 11:30. Professor ALLEN.

12. **Anglo-Saxon.** Prose and Poetry. M. W. F., at 11:30. Professor ALLEN.

13. **Middle English.** W. F., at 8. Professor ALLEN.

14a. **The French Element in English.** Knowledge of French and Latin necessary. W. F., at 9. Professor ALLEN.

Primarily for Graduates.

15. **Beowulf.** The study of the poem will be pursued as an exercise in Old English phonology, in text-criticism, and in the investigation of poetic principles. T. Th., at 3.

20. **Literary Criticism.** Some standard works will first be read, to be followed by more distinctly constructive work in which an attempt will be made to determine the grounds of literary judgment, etc. A training in elementary psychology is desirable. *Three times a week.* Hours to be arranged. Assistant Professor FAIRCHILD.

21. **The Change of Literary Taste in England in the Seventeenth Century.** An attempt will be made to trace out in some detail the canons of poetry of Johnson, Donne, Herbert and Vaughan, Herrick and the Caroline song-writers, Cowley, and Waller. Special attention will be given to verse form. Monday evenings, 8-10. Professor BELDEN.

22. **Seminary.** Subject for 1907-08, Chaucer. W., 4-6.

Students will be admitted only to such courses as they are prepared for. They should in all cases consult the Professor before making choice of a course.

A special medal, known as the "McAnally Medal," is offered for the best essay, thesis, or poem, by a member of the Senior class. Subject for 1907-08, "Henry Wadsworth Longfellow." See page 89.

For the Field Prize of $100 for the best poem, see page 91.

Freehand Drawing.

Assistant Professor ANKENEY (in charge).

2. **Representation.** An introductory course giving a general survey of delineation. The principles and theories are presented in lectures with some collateral reading. Practice in drawing with pencil, pen and ink, wash, and in painting with water colors. Section I, T. Th. S., at 8; Section II, T. Th. S., at 9.

During the second semester the experimental practice in course 2 is differentiated somewhat to suit the needs of individual students. Those taking this course as a direct aid to other University courses, should so inform the Instructor.

3. **Design.** The theory of design; design as fundamental to the fine arts (architecture, painting, sculpture) and crafts; the principles and bases; evolution in design. Lectures, reading, study of examples, original exercises. *Three times a week.* Hours to be arranged.

5. **Construction.** Consideration of past and present usage in the artistic construction of the human figure. Lectures, study of examples and reading. Drawing and modeling from casts and life. Lecture, M., at 1:30; Laboratory, T. Th. S., 10:30-12:30, or M. W. F., 2-4.

Students in course 5 attend a sketch class Tuesday evenings, 7 to 9, and are given a subject for composition twice each month.

7. **Painting.** Style, theory and methods of various schools and movements. Lectures, study of examples and reading. Experimental practice in painting from landscape and life with work in original composition. Lecture, F., at 1:30; Laboratory, T. Th. S., 10:30-12:30, or M. W. F., 2-4. Open only to advanced students.

Geology and Mineralogy.

Professor MARBUT; Mr. EMERSON.

For Undergraduates.

1. **General Geology.** This course is designed to meet the requirements of students in Engineering and such students in the College of Arts and Science as intend to take up any of those occupations which are intimately connected with the materials of the Earth's crust, such as mining, real estate dealing, geological surveying, topographic surveying, forestry or agriculture. The course deals with the constituents of the Earth's crust, their arrangement and distribution, and with the action of the geological processes. The laboratory and field work will include the mapping, geologically, of an area of five square miles in the vicinity of Columbia, and the study of the important minerals and rocks of the Earth's crust. An elementary course in Chemistry is a prerequisite. Lecture, M., at 10:30; Laboratory, T. Th., 1:30-4.

2. **Physiography of North America.** A detailed study of the morphology of the surface of the continent. It is designed especially for students who intend to specialize in History, Economics or Sociology. T. Th. S., at 8.

3b. **Physiography of Europe.** A companion course to course 2. It is designed to meet the needs of the same class of students. T. Th. S., at 10:30.

Courses 2 and 3b are adapted to the needs of students who are preparing to teach Physical Geography in the High Schools of Missouri. Students who desire a certificate in the Teachers College in which Physical Geography is named are advised to elect courses 5, 2, 3b and 9 or 4b.

4a. **The Geology of Soils.** A course of study of the inorganic constituents of the soil and their relation to the rocks of the Earth's crust. The latter phase of the subject will include the study of the distribution of soils, their relation to the Geology of the respective localities and their productivity. T. Th. S., at 10:30.

4b. **Meteorology.** Recitations, lectures, and laboratory work. *Three times a week.* Not open to Freshmen.

5. **The Principles of Geology.** This is a lecture and library course of study in the broad, general principles of Geology. It is

intended to meet the needs of students in the College of Arts and Science who desire a knowledge of the principles of the subject, but who do not care to take a course in laboratory training. M. W. F., at 9.

7a or 7b. **Physical Geography.** A course in General Physical Geography having about the same relation to the other Physiography courses that General Geology has to the more special Geological courses. It will deal with the scope, principles and methods of study and treatment in the field, library and laboratory. *Three times a week.*

Facilities will be offered for doing work in Mineralogy and Petrology to students prepared to do such work. It will be almost exclusively laboratory work.

10a or 10b. **Elementary Paleontology.** This course is intended to serve two purposes: (1) to give a general idea of life development as shown by fossils, (2) to show the use of fossils in identifying the main geological formations. It is designed for students who desire a general knowledge of the subject as a preparation for zoological work. Students who wish to become able to identify geological formations should follow the first course with a laboratory course. *Three times a week.*

For Undergraduates and Graduates.

8. **Field Geology.** The detailed study, with the preparation of reports and maps, of geologically important districts. The selection of the area to be studied may be made by the student with the approval of the Professor.

9. **Geomorphology.** Special field and laboratory study of land form.

Germanic Languages.

Professor HOFFMAN; Professor ALMSTEDT; Assistant Professor STEWART.

For Undergraduates.

1. **Beginning Course in German.** Texts: Thomas' Practical Grammar, Vos' Essentials of German, Vos' Materials for German Conversation, easy prose reading. Section I, T. Th. S., at 9; Section II, M. W. F., at 10:30; (Teachers College only) Section III, M. W.

F., at 11:30. Professor HOFFMAN; Professor ALMSTEDT; Assistant Professor STEWART.

2. **Course in German Reading, Syntax and Composition.** *First Semester*: Reading from authors like Storm, Hauff, Baumbach, Freytag; on the basis of the text, drill in grammar (questions and answers in German), German dictation, study of the German idiom. *Second Semester*: Intensive composition work. This will lead to German theme-writing. Prerequisite, course 1. Section I, M. W. F., at 9; Section II, T. Th. S., at 10:30; Section III, T. Th. S., at 11:30. Professor HOFFMAN; Assistant Professor STEWART.

3. **Advanced Reading Course.** Primarily a course in extensive prose reading. Such works as Heine's Harzreise, Keller's Dietegen, Freytag's Doktor Luther, will serve as the basis of study; parallel reading in German authors; German paraphrases. Though this course, a natural sequence to course 2, is mainly one of language discipline, yet during the last month the literary significance of works read will receive attention. Prerequisite, courses 1 and 2. M. W. F., at 10:30. Assistant Professor STEWART.

For Undergraduates and Graduates.

4. **Schiller.** This course will consist in the study of Schiller's Jungfrau von Orleans, Maria Stuart, Braut von Messina; Wilhelm Tell; Wallenstein; essays in German, based on the texts; lectures on Schiller's life and works. Course conducted in German. M. W. F., at 10:30. Professor HOFFMAN.

5. **Goethe.** In the first semester a careful study will be made of Egmont, Goetz von Berlichingen, Hermann und Dorothea; the second semester will be given to the study of Iphigenie, Tasso, Faust, Essays written in German; lectures on other works of Goethe. The course is conducted in Geman, and requires, therefore, a knowledge of spoken German. T. Th. S., at 10:30. Professor ALMSTEDT.

*6a. **Outline Course in German Literature.** The aim of this course is to acquaint the student with the most important works and movements in the evolution of German literary life. T. Th. S., at 2. Professor HOFFMAN.

*7a. **Modern German Poetry.** This course is to comprise a careful study of representative poems with reference to their kind, merits, the time and circumstances under which they came into be-

*Probably only one of courses 6a and 7a can be given in 1907-08.

ing, laying also stress on the study of metrics. Kluge, von Klenze. T. Th. S., at 2. Professor HOFFMAN.

7b. **Deutsche Aufsaetze und Stiluebungen.** Advanced course in German theme-writing; discussion of grammatical, syntactial, and stylistic points. This course is intended for teachers of German, or for students who propose to become teachers of German. Conducted in German. T. Th. S., at 2. Professor HOFFMAN.

8. **Practical Course in Current German Publications.** *Once a week throughout the year.* Assistant Professor STEWART.

Primarily for Graduates.

9. **Course in German Literature.** This course is intended to give the student a survey of the field of German literature from its beginning to the present time. Lectures are given in German. Texts: Scherer, etc. T. Th. S., at 10:30. Assistant Professor STEWART.

*10. **History of German Literature.** *First Semester*: The Reformation and Renaissance (1500-1750). *Second Semester*: From Klopstock through the period of Romanticism. This course is to give the student an insight into the development and decline of literary tendencies, forms, ideals, and the influences that helped to develop them or to accelerate their decline. T. Th. S., at 10:30. Professor HOFFMAN.

11. **Historical German Grammar and Syntax.** This course is especially adapted to those who are fitting themselves to teach German. A knowledge of Gothic, Old High German, and Middle High German, though very desirable, is not required. Texts: Otto Behaghel, Die deutsche Sprache (Leipzig-Prag, 1902), Shreitberg, Kluge, Wunderlich. M. W. F., at 10:30. Assistant Professor STEWART.

*12. **Deutsches Seminar** (neuere Abteilung). Subject to be determined. *Twice a week.* Professor HOFFMAN.

*12b. **History of the Nibelungenlied.** This course is to comprise a study of the various theories as to the origin and authorship of the poem, the controversies in regard to it, and its relation to the Nibelungensaga and other sagas. A reading knowledge of Middle High German is required. M. W. F., at 3. Professor HOFFMAN.

13. **Middle High German.** *First Semester*: Walther von der Vogelweide. *Second Semester*: Meier Helmbrecht. Discipline in phonology, morphology, syntax; comparison of mediaeval with modern

*Probably only one of courses 10, 12, 12b, and 14 can be given in 1907-08.

idiom; a study in lyric and narrative poetry. M. W. F., at 11:30. Professor ALMSTEDT.

*14. **The German Drama of the Nineteenth Century.** *First Semester*: Dramas from Kleist, Grillparzer, Hebbel, Ludwig. *Second Semester*: Anzengruber, Wildenbruch, Hauptmann, Sudermann, Fulda. *Three times a week.* Professor HOFFMAN.

15. **Old High German.** Old High German phonology and forms; critical reading of Old High German texts. Prerequisite, course 17. Texts: Braune, Althochdeutsche Grammatik; Braune, Althochdeutsches Lesebuch. M. W. F., at 11:30. Professor ALMSTEDT.

16. **Deutsches Seminar (aeltere Abteilung).** Subject to be determined. For special students only. *Twice a week.* Professor ALMSTEDT.

17. **Gothic.** Phonology, morphology, and syntax; reading from Ulfilas; the relationship of Gothic to Indo-European and to later Germanic dialects; General introduction to Germanic philology. T. Th. S., at 11:30. Professor ALMSTEDT.

17b. **Old Saxon.** The reading of Heliand with reference to Holthausen, Altsaechsisches Elementarbuch. M. W. F., at 10:30. Professor ALMSTEDT.

18. **Old Norse.** Elementary course. Grammar and reading. Prerequisite, course 17. Professor ALMSTEDT.

Greek.

Professor MANLY; Assistant Professor CROSBY.

For Undergraduates.

1. **Elementary Greek.** This course is intended for students who have not had an opportunity of studying Greek in the schools where they were prepared, or who have neglected to do so. Thorough drill will be given in forms, and in the fundamental principles of syntax by daily written and oral exercises. Stress will be laid on the early acquisition of vocabulary with a view to taking up as soon as possible the reading of some easy Greek. Texts: Ball's Elements of Greek, and Gleason's Gate to the Anabasis, or Moss' Greek Reader. M. W. F., at 8. Professor Manly.

2. **Xenophon's Anabasis.** The first four books of the Anabasis will be read with the necessary study of the historical setting. A thorough review will be given of the syntax, and of the Attic forms as a basis for future work in the department. Texts: Goodwin and White's Anabasis; Pearson's Greek Prose Composition; Goodwin's

Greek Grammar. T. Th. S., at 10:30. Assistant Professor CROSBY.

3. **Lysias and Homer.** *First Semester*: Selected Orations of Lysias. Together with the translation and the necessary grammatical review, the style of Lysias and his place in Greek oratory will be discussed. Attention will be given to the history of the period and to court procedure at Athens in so far as it is necessary to an understanding of the orations read. Texts: Wait's Orations of Lysias; Bridgmann's Parallel Exercises in Lysias. M. W. F., at 9. Assistant Professor CROSBY.

Second Semester: Homer's Odyssey. The work will include a study of the dialect of Homer, the reading of four or five books, special attention being given to reading metrically, and, in addition, the reading of the rest of the poem in English translation, together with discussions of the manners and customs of the Homeric Age. Many photographs and stereopticon slides are used in illustrating the subject. Texts: Perrin and Seymour's School Odyssey I-IV, IX-XII, and Jebb's Introduction to Homer. M. W. F., at 9. Professor MANLY.

4a. **Greek Tragedy.** The origin and development of Greek tragedy will be considered, and special study will be made of Aeschylus' "Prometheus Bound," and Sophocles' "Antigone." This course should be accompanied by the course in Greek Theater (12a). T. Th. S., at 8. Assistant Professor CROSBY.

5b. **Thucydides.** The aim of this course is to acquaint the student with the greatest of Greek Historians and with his place in the history of Greek Literature. Books VI. and VII., the Sicilian Expedition, have been chosen for reading in class, as furnishing an account of what is perhaps the most dramatic episode and in the author's best style. The student is expected to familiarize himself with the whole period of the Peloponnesian War. T. Th. S., at 8. Assistant Professor CROSBY.

6a. **History of Greece to the Roman Conquest.** This course deals with the political, social, and intellectual history of the ancient Greeks. Botsford's History of Greece will be used as an outline, but reading will be assigned in the larger histories, and in translations of Herodotus, Thucydides, Xenophon, and other Greek writers. The work will be illustrated by maps, photographs, and stereopticon slides. A knowledge of the Greek language is not required for this course, and it may be counted toward a major or a minor in either Greek or History. T. Th. S., at 9. Assistant Professor CROSBY.

7a. Greek Prose Composition. A thorough review of the forms and of the syntax will be given by means of written exercises. This course is especially adapted to students who expect to apply for the Rhodes Scholarship, or to teach Greek or Latin. T. Th., at 11:30. Professor MANLY.

8a. Greek Literature in English Translation. This course is especially designed for non-classical students who desire to obtain a knowledge of Greek literature and of its influence on Roman and modern literatures. The work will be based on a text-book with assigned readings in the standard translations of the most important Greek classics. M. W. F., at 3. Professor MANLY.

9b. Greek Mythology. The aim of this course will be to familiarize the student with the myths of Greece as being necessary to a proper appreciation of literature in general. The work will be adapted especially to the needs of students of English and of Greek literature. Gayley's Classic Myths will be used as a text, and selected pieces of English literature and of Greek literature in English translation will be read for purposes of illustration. W. F., at 3. Professor MANLY.

10. Greek Life. The manners and customs of the Ancient Greeks are dealt with in detail, such as early childhood, toys and sports, education, houses, furniture, dress, athletics, marriage, death, burial, etc. The work consists of lectures, assigned readings, and reports, and is illustrated by maps, charts, photographs, and stereopticon views. T. Th., at 2. Professor MANLY.

11b. New Testament Greek. The purpose of this course is to consider the language of the New Testament compared with Attic Greek. For this purpose selected portions will be read and considered in class, while other portions will be assigned for private reading. T. Th., at 11:30. Professor MANLY.

For Graduates and Undergraduates.

12a. The Greek Theater. The origin and development of the Greek Theater will be considered, and disputed points in the structure of the theater, and in the presentation of plays will be discussed. The basis of the work will be Doerpfeld and Reisch's *Das Griechische Theater*. S., at 11:30. Professor MANLY.

13b. Aristophanes. Selected comedies will be read, and the origin and development of comedy will be considered. Attention will also be given to the life of the people as revealed in the plays. *Two or three times a week.* Hours to be arranged. Assistant Professor CROSBY.

Primarily for Graduates.

14. **Hesiod, Homeric Hymns, and Apollodorus.** This course will deal with the Greek idea of the origin of the world, gods, and men, and the early conception of the universe, together with the later developments of the myths. *Three times a week.* Hours to be arranged. Professor MANLY.

15. **Homer.** The whole of the Iliad and Odyssey will be read during the year with especial attention to the antiquities. A special subject will be assigned each student for investigation. Teubner text editions of the poems should be secured in advance. *Two or three times a week.* Hours to be arranged. Professor MANLY.

16a. **Comparative Grammar.** This course will be of interest to prospective teachers and all who are interested in the linguistic side of Greek and Latin. Lectures will be given on the principal facts of sounds and inflections; and the student will be expected from time to time to give careful study to early specimens of both languages. He should provide himself with Lindsay's Latin Inscriptions and Homer's Iliad. Other books needed for the course will be accessible in the college library. *Two or three hours a week.* Hours to be arranged. Assistant Professor CROSBY.

17b. **Plato.** The Protagoras, Meno, Phaedo, and Phaedrus will be read, in part or entire. The course is intended primarily for those who have a ready reading knowledge of Greek of the classical period. Peculiarities of style and diction will be commented on as occasion demands, but more stress will be laid upon content. Attention will be paid to the author's place in philosophy, and the student is referred for an account of his predecessors to Zeller's Larger History of Greek Philosophy. *Two or three hours a week.* Hours to be arranged. Assistant Professor CROSBY.

18. **Seminary.** This work will be conducted jointly by Professor Manly and Assistant Professor Crosby, and will be adapted to the needs of the graduate students in attendance.

History.

Professor TRENHOLME; Professor VILES; *Mr. ECKHARDT; Dr. CRAWFORD; Mr. VAUGHN; Mr. GROMER.

The undergraduate courses in History are arranged and numbered in the order in which they should ordinarily be taken. The course in European History is introductory to all other courses in the Department. No advanced standing in History will be granted

*On leave of absence, session 1906-7.

for courses taken in the regular high school course; and students who apply for advanced standing must, as a rule, have had equivalent college or university work. Students who are aiming to become high school teachers of History are especially recommended to elect courses 1, 2, and 3 in the following list, Political Science 1 or 2b, and the Greek and Roman History courses given in the classical departments.

For Undergraduates.

1. **European History.** An introductory course in which the history of the nations of Europe during the medieval and modern periods will be dealt with in as broad and comprehensive a manner as is consistent with thoroughness of knowledge and definiteness of outline. The course will be conducted by means of informal discussions, recitations, hour quizzes, and a final examination at the end of each semester. Students should possess Trenholme's Syllabus of the History of Western Europe, Robinson's History of Western Europe, and the same author's Readings in European History (Abridged Ed.). This course is required of all students who wish to take other courses in History, Economics, Political Science and Public Law, Sociology, and Pedagogy, and is strongly recommended for those intending to take courses in the History of Art. Sections I, II, III, M. W. F., at 9; Section IV, M. W. F., at 10:30; Section V, M. W. F., at 2; Section VI, T. Th. S., at 9; Sections VII, VIII, T. Th. S., at 10:30. In the second semester this course will probably be also given as a six hour course, complete in itself for the acccommodation of new students. Professor TRENHOLME; Mr. ECKHARDT; Dr. CRAWFORD; Mr. VAUGHN; Mr. GROMER.

2. **English History.** A general course dealing with the political, social, and institutional history of the English people from the earliest times to the present day. Cheyney's Short History of England will be used as the basic text, and Kendall's Source Book of English History as a companion to the text. The instruction will be in the form of informal discussions and recitations with occasional hour examinations, and a final examination at the close of each semester. Those taking this course should already have some knowledge of general European History. Section I, M. W. F., at 10:30; Section II, M. W. F., at 11:30; Section III, T. Th. S., at 9. One of the above sections will be especially for Law students. Professor TRENHOLME; Dr. CRAWFORD; Mr. VAUGHN.

3. **American History.** A general course on the exploration and settlement of North America, the French and English colonies, the

American Revolution, and the United States. Hart's Essentials of American History will be used as the text and instruction will be in the form of informal discussions and recitations on text-books and assigned reading, with written quizzes and examinations. Those taking this course must have had at least the first semester's work in Course 1. The first half of this course will be repeated in the second semester for the benefit of new students. Section I., M. W. F., at 11:30; Section II, T. Th. S., at 11:30. Professor VILES and Mr. GROMER.

For Graduates and Undergraduates.

10. **Modern European History.** The political, social, and institutional history of Continental Europe from the French Revolution to the present time with special attention to the causes, events, and results of the French Revolution, the Napoleonic era, and the development of nationality and continental government in the nineteenth century. T. Th. S., at 10:30. Mr. ECKHARDT.

11. **History of the United States.** A course on the political and narrative history of the United States since 1763, taking up the development of parties and political ideals, foreign relations, territorial expansion, the slavery question, and the general development of the nation. M. W. F., at 10:30. Professor VILES.

12b. **History of Missouri.** After a brief survey of French exploration and colonization in the Mississippi valley, of the Spanish regime, and the early settlements, the Louisiana Purchase and its causes will be taken up in more detail. The primary aim of the course, however, will be to give an account of the development of Missouri since 1803, of the progress of settlement, and of the political and narrative history. Every student will be expected to prepare several reports. This course must be preceded by a course in American History. M. W. F., at 2. Professor VILES.

14b. **History of Modern Colonization.** The purpose of this course is to trace in outline the extension of power of the nations of western Europe in other continents. The character and purposes of the colonial policies of these nations, and the narrative history of the more important colonies in America, Asia, and Africa will be dealt with. T. Th., at 2. Mr. ECKHARDT.

15a. **History of England During the Tudor and Stuart Periods.** A course on the political and constitutional history of England from 1485 to 1688. The English Reformation, the character and the machinery of the Tudor despotism, the Puritan movement, particularly

in its social and political aspects, the Restoration, and the revival of parliamentary government in 1688, will be the main topics of study. M. W. F., at 11:30. Professor VILES.

16b. **Modern England.** The political and constitutional history of England since 1688. Especial attention will be given to the rise of parties, to the development of cabinet government, and to Parliamentary Reform in the nineteenth century. No text-book will be used, but there will be assigned reading and weekly written tests, besides oral quizzes and discussions. M. W. F., at 11:30. Dr. CRAWFORD.

18a. **History of Germany to the Close of the Protestant Revolt.** A course especially designed for students of German language and literature who wish a general knowledge of German history. The origin and early history of the people of Germany will be first taken up and then a careful study made of the politics, institutions, society and commerce of the German portion of the Holy Roman Empire, and finally, the story of the Protestant Revolt in Germany will be carefully studied to the religious peace of Augsburg in 1555. A reading knowledge of German while desirable will not be essential. T. Th. S., at 9. Mr. ECKHARDT. To be offered in 1907-08.

19b. **History of Germany Since the Protestant Revolt.** A continuation of Course 10a, in which the modern history of Germany will be covered in as thorough a manner as possible. The causes, events, and results of the Thirty Years War, the rise of Prussia, and her part in the eighteenth century history, Germany and Napoleon, and the formation of the present German Empire will be among the chief topics considered. T. Th. S., at 9. Mr. ECKHARDT. To be offered in 1907-08.

20a. **History of France to the Sixteenth Century.** This course deals with French history from the Treaty of Verdun to the close of the fifteenth century. The leading events of the period and the chief features of constitutional development will be treated in detail, special emphasis being laid on the rise and development of the French Monarchy, and of central institutions. Ability to read French will be desirable, but not essential. T. Th. S., at 11:30. Mr. VAUGHN.

21b. **History of France Since the Sixteenth Century.** This course will be a continuation of 11a, and will deal with the political and institutional history of France from about the year 1500 to the present time. T. Th. S., at 11:30. Mr. VAUGHN.

24a. **The Culture and Civilization of the Middle Ages.** A course dealing with the history and development of culture and

civilization among the German nations of Europe and in the territories of the old Roman Empire during the medieval period. Special attention will be paid to educational, literary, social, and governmental aspects of the age. This course logically precedes course 13b. T. Th., at 11:30. Professor TRENHOLME. To be offered in 1907-08.

25b. **The Culture and Civilization of the Renaissance.** A course dealing with the rise of Italian Humanism and the spread of the Renaissance throughout Europe generally. Special attention will be given to the literature, religion, society, and art of the period. Symond's Short History of the Renaissance and VanDyke's Age of the Renaissance are recommended as hand books for students. Students who elect this course are advised to take also course 11, in the History of Art. T. Th., at 11:30. Professor TRENHOLME.

26b. **The Era of the Reformation.** A study of the causes, events, and consequences of the religious revolutions of the sixteenth century, with special attention to the influence of the German Reformation on politics and society. Omitted in 1907-08. T. Th. S., at 11:30. Dr. CRAWFORD.

Courses 25b and 26b will usually be given in alternate years.

28a. **Topics and Studies in Recent European History.** A course having for its object the investigation of special topics of importance in connection with recent European history. Topics will be selected with reference to the resources of the library, and the course will be conducted by means of lectures, reports, discussions, and quizzes. Must be preceded by course 4. M. W. F., at 2. Mr. ECKHARDT.

30a. **Historical Method and Bibliography.** A course of training for advanced students of history on the nature of historical research, the methods to be used, auxiliaries to historical study, use of documents, reference works, and bibliographical aids. This course can be advantageously taken by intending teachers of history precedent to the course in the Teaching of History in the Teachers College. T. Th., at 2. Professor TRENHOLME; Mr. ECKHARDT.

Primarily for Graduates.

32a. **English Constitutional and Legal History to the Norman Conquest.** A study of early English institutions from the sources and best secondary works. This, with the following course 18b, is especially designed for students intending to specialize in English history or in law. It counts as an elective in the Department of Law. No student, however, will be admitted to either course who

has not had a thorough grounding in English political history; students without such grounding are referred to the legal and constitutional section of History 2. Lectures, reading of documents, reports and discussion. M. W. F., at 2. Professor TRENHOLME.

33b. **English Constitutional and Legal History Since the Norman Conquest.** A continuation of course 18a, dealing with later institutions. M. W. F., at 2. Professor TRENHOLME.

34a. **American Colonial History.** A course on the more important problems of colonial settlement and expansion, with especial attention to the development, of representative institutions and local government. The aim of the course is to trace the growth of the political institutions and ideals leading to the American Revolution. *Two or three times a week.* Hours to be arranged. Professor VILES.

35b. **Advanced United States History.** A study of selected topics in United States History. Lectures, discussions, and reports by the class. *Two or three times a week.* Hours to be arranged. Professor VILES.

40. **Seminary in Missouri History.** A course affording opportunity for investigation in Missouri History. Every student will be expected to investigate from the sources some topic in the narrative or political history of Missouri, to embody the result of his study in written form, and, at the option of the Instructor, report to the class. In the assignment of topics preference will be given, as far as possible, to the interests and leanings of the individual students. May be elected for 2, 3, or 4 hours. Professor VILES.

41. **Seminary in American History.** A research course in selected topics in American Colonial History and the political and institutional development of the United States. In the assignment of topics an effort will be made to follow the individual preferences of students. May be elected for 2, 3, or 4 hours. Professor VILES.

42. **Seminary in English Political, Institutional, and Legal History.** A course affording opportunity for original research in these fields. The University Library and the Law Library both contain valuable material for research work in English History. May be elected for 2, 3, or 4 hours. Professor TRENHOLME.

43. **Seminary in Medieval History.** A research course in which students will be required to investigate some special topic in the history of the Middle Ages, to be selected by the Instructor and student in accordance with the resources of the library. Some knowledge of Latin will be requisite, and ability to use French and

German will be desirable. May be elected for 2, 3, or 4 hours. Professor TRENHOLME.

44. Seminary in Modern European History. This course will afford an opportunity for well prepared students to follow out some special line of research in the field of modern history. The topics will be carefully selected by the Instructor to meet the conditions of library resources. A knowledge of at least one modern language, other than English, will be absolutely necessary in this course. May be elected for 2, 3, or 4 hours. Mr. ECKHARDT.

Latin.

Professor JONES; Assistant Professor JOHNSTON; Dr. CANTER.

For Undergraduates.

1. Sallust, De Bello Iugurthino, and Vergil. Greenough and Kittredge's Vergil; Allen and Greenough's Latin Grammar; Guerber's Myths of Greece and Rome. Section I, M. W. F., at 9; Section II, T. Th. S., at 9. Assistant Professor JOHNSTON; Dr. CANTER.

1A. Cicero and Vergil. *First Semester*; Selected orations and letters of Cicero; de Senectute. *Second Semester*; Vergil's Aeneid. M. W. F., at 11:30. Dr. CANTER.

2. Latin Prose Composition. (Elementary Course). M., at 2. Dr. CANTER.

3. Livy and Horace. Texts: Lord's Livy; Shorey and Kirkland's Horace; Allen and Greenough's Grammar. Must be preceded by course 1. Section I, M, W, F., at 11:30; Section II, T. Th. S., at 11:30. Assistant Professor JOHNSTON; Dr. CANTER.

4. Latin Prose Composition. (Second Course.) Texts: Gildersleeve and Lodge's Latin Composition. Must be preceded by course 2. F., at 11:30. Dr. CANTER.

5. Roman Public and Private Life. (a) Cicero and Pliny, selected letters; (b) Juvenal and Martial. Must be preceded by courses 1 and 3. M. W. F., at 8. Professor JONES.

7. Rapid Reading. Selections from the historians and the poets. Must be preceded by courses 1 and 3. T. Th. S., at 8. Assistant Professor JOHNSTON.

12b. History of Rome to the Fall of the Empire in the West. This course will treat of the rise and development of the Roman State, with special reference to the politics, society, and culture of the Romans. No knowledge of Latin is required. This course

may be counted for a major or a minor in either Latin or History. T. Th. S., at 9. Dr. CANTER.

For Undergraduates and Graduates.

6. **Catullus, Martial, and the Elegiac Poets.** Must be preceded by courses 1, 3, and 5. T. Th. S., at 8. Dr. CANTER.

8a. **General Introduction to the Science of Language.** This course is intended for students of all departments who have linguistic interests. M. W. F., at 10:30. (Not offered in 1907-08.)

8b. **Comparative Grammar of Greek and Latin.** This course presupposes an elementary knowledge of Greek and Latin. It is important for those who intend to teach the Classics in high schools. M. W. F., at 10:30. Professor JONES.

9. **Roman Drama** (Plautus and Terence). Must be preceded by courses 1, 3, and 5. T. Th. S., at 10:30. Assistant Professor JOHNSTON.

10. (a) **Tacitus, Annals;** (b) **Seneca.** Must be preceded by courses 1, 3, and 5. M. W. F., at 10:30. Dr. CANTER.

11. **Roman Literature. Characteristic selections.** Must be preceded by courses 1, 3, and 5. T. Th. S., at 11:30. (Not offered in 1907-08.) Assistant Professor JOHNSTON.

17. **Elementary Sanskrit.** A limited amount of classical text will be read and the grammar will be carefully examined for the purpose of shedding light on the related languages. An elementary knowledge of Greek and Latin is required. T. Th. S., at 10:30.

20a. **Introduction to Latin Palaeography.** Includes the reading of facsimiles. One hour a week. Dr. CANTER.

20b. **Introduction to Latin Epigraphy.** Includes a study of representative inscriptions. *One hour a week.* Dr. CANTER.

23b. **The Elements of Oscan and Umbrian.** M. W. F., at 8. (Not offered in 1907-08.)

Primarily for Graduates.

15. **Seminary.** Critical study of the Odes of Horace. Hours to be arranged. Professor JONES; Assistant Professor JOHNSTON.

16. **History of the Latin Language.** Sounds, inflections, syntax. M. W. F., at 10:30. Professor JONES.

18. **Sallust.** Sallust's Catiline, Jugurtha, and fragments from the history will be read, and a special subject assigned to each student for investigation. M. W. F., at 10:30. Assistant Professor JOHNSTON.

19. **A Critical Study of Lucretius.** Hours to be arranged. (Not offered in 1907-08.) Dr. CANTER.

21. **Roman Epigram.** Hours to be arranged. Dr. CANTER.

Mathematics.

Professor HEDRICK; Assistant Professor KELLOGG; Assistant Professor AMES; Dr. WESTFALL; Mr. INGOLD; Mr. BORGER; Miss WALKER; Mr. PEMBERTON; Mr. HEDGES.

No student will be recommended for advanced credit in any course in Mathematics without examination, except from the colleges of the Missouri College Union, and from certain universities outside the state. An examination, which will be set some time in October, will be open to students who show certificates of having satisfactorily completed the work in an accredited school.

For Undergraduates.

[The courses marked (E) are required of Engineers, but these courses may and should be taken also by students in the College of Arts and Science who desire more work in Mathematics.]

1. **Short Freshman Mathematics** (consisting of):

*1a. *Trigonometry and Algebra. Three times a week.*

*1b. *Plane Analytical Geometry. Three times a week.*

This is the (shorter) standard preparation for sophomore work. The semesters may be elected separately; course 1a may be followed by course 1b (E) below; and course 1b may follow course 1a (E), and 2a (E). Four sections: T. Th. S., at 10:30 and 11:30; M. W. F., at 9 and 11:30. Texts, rooms, and instructors posted in advance.

1(E) and 2a(E). **Extended Freshman Mathematics** (consisting of):

*1a(E). *Trigonometry. Three times a week.*

*2a(E). *Advanced Algebra. Twice a week.*

*1b(E). *Plane and Solid Analytical Geometry. Five times a week.*

This (longer) standard preparation for Sophomore work should be taken, if possible, by students who are strong in Mathematics. 1a(E) and 2a(E) may not be elected separately, except on account of failure. But 1b (E) may be elected independently; see note,

*Each of the one semester courses marked (*) is also offered in the opposite semester: Thus course 1a is also given as (1A)b in the second semester, etc. But this will be done only if a sufficient number register promptly.

course 1. Eight sections: five sections daily except S., at 8, 9, 10:30 11:30, 2; three sections daily except M., at 8, 11:30. Texts, rooms, and instructors posted in advance.

2. **Freshman Algebra.** This course contains much of the matter in course 1, but arranged as follows:

2a. *Advanced Algebra. Three times a week.*

2b. *General Algebra. Three times a week.*

This course may be used instead of course 1 in preparation for Sophomore Mathematics. The first semester begins with a review of Elementary Algebra, and covers all the Algebraic work given in both semesters of course 1, including graphical illustrations. The second semester treats more advanced topics, including Elementary Theory of Equations. Geometrical Methods (Analytic Geometry). Trigonometric Functions and Applications, and a slight notion of the Calculus. M. W. F., at 10:30. Credits for courses 1 and 2 are mutually exclusive, since these courses overlap. If further Algebra is desired, course 6 should be elected by those who have had course 1.

3. **Short Course in Calculus.** This course contains the essentials of the Calculus, a few applications, supplementary work in Analytic Geometry. Many difficult theorems and problems are purposely omitted. Students intending to make Mathematics a specialty may take 4(E) instead of 3, or they may elect 6 together with 3; but 3 is a sufficient basis for recommendation for high school teachers. *Three times a week.* T. Th. S., at 8. Assistant Professor AMES.

*4(E). **Extended Course in Calculus.** A more detailed and extensive course in Calculus proper than course 3, including special supplementary work in Differential Equations and in Mechanics. Students inclined toward Mathematics should elect this course, or the combination of courses 3 and 6. They can then decide whether or not they can succeed in further work in Mathematics. *Five times a week.* Six sections: three sections daily except S., at 8, 9, and 11:30; three sections daily except M., at 8, and 11:30. Texts, rooms, and instructors posted in advance.

For Undergraduates and Graduates.

(For details see also the Announcement of the Graduate Department.)

5. **Second Course in Calculus.** This course should be selected by all who have reasonably succeeded in course 3 or 4 (E), who de-

sire to continue mathematical work through another year. It will deal with questions necessarily omitted or treated hurriedly in the first course on Calculus. Goursat-Hedrick Course in Mathematical Analysis will be used as a text, with explanatory lectures. *Three times a week.* Hours to be arranged. Professor HEDRICK.

6a. **Theory of Equations and Determinants.** Recitations supplemented by lectures. Texts: Fine College Algebra; Burnside and Panton, Theory of Equations. This course includes special work in Advanced Algebra. To be elected only with or after course 3 or 4. *Three times a week.* Hours to be arranged. Assistant Professor KELLOGG.

6b. **Advanced Analytic Geometry.** Recitations, supplemented by lectures. The applications of the Calculus and extensions of the elementary course on Analytic Geometry, including Solid Geometry. To be elected only with or after course 3 or 4. *Three times a week.* Hours to be arranged. Assistant Professor KELLOGG.

7a. **Elements of Differential Equations.** Recitations, supplemented by reading. Text: Murray's Differential Equations. Open to any who have had courses 3 or 4. *Three times a week.* Hours to be arranged. Assistant Professor AMES.

7b. **Elements of Analytical Mechanics.** Open to any who have taken course 3 or 4. *Three times a week.* Hours to be arranged. Assistant Professor AMES.

8a. **Elements of Differential Geometry.** Lectures, supplemented by reading. Introduction to the theory of modern differential Geometry. Naturally follows course 5 or 6b. *Three times a week.* Hours to be arranged. (Alternate years. Given 1905-06.)

8b. **Elements of Projective Geometry.** Lectures, supplemented by reading. Election independent of course 8a. *Three times a week.* Hours to be arranged. (Alternate years. Given 1905-06.)

9a or b. **Mathematical Laboratory.** A regular class will be conducted, if desired by a sufficient number, in the construction of mathematical models, with explanatory lectures. Hours to be arranged. (No credit can as yet be assigned for this work.) Professor HEDRICK; Mr. ————.

10a or b. **History of Mathematics.** *Three times a week.* Hours to be arranged. This course will be given if desired by a sufficient number of persons qualified to enter it.

11a or b. **The Mathematical Theory of Probability, with Applications to Life Insurance and Statistics.** This course will now

be given regularly if elected by a sufficient number promptly. *Three times a week.* Hours to be arranged.

Primarily for Graduates.

(For details see also the Announcement of the Graduate Department.)

12a. **Infinite Series and Products.** Introduction to the Theory of Functions of a Real Variable. Lectures. *Three times a week.* Hours to be arranged. (Alternate years, given, 1907-08.) Assistant Professor AMES.

12b. **Galois' Theory of Substitutions. Groups.** Lectures, supplemented by reading. Election independent of 12a. Text: Dickson, Theory of Algebraic Equations. *Three times a week.* Hours to be arranged. (Alternate years, given, 1906-07.) Assistant Professor AMES.

13a. **Fourier's Series, and Allied Series.** Introduction to Mathematical Physics. Lectures, supplemented by reading. *Three times a week.* Hours to be arranged. (Alternate years, given, 1906-07.) Assistant Professor KELLOGG.

13b. **Potential Function.** This course presupposes the preceding (13a). Lectures, supplemented by reading. *Three times a week.* Hours to be arranged. (Alternate years, given, 1906-07.) Assistant Professor KELLOGG.

14. **Theory of Functions of Real Variables. Higher Analysis.** Lectures, supplemented by reading. *Three times a week.* Hours to be arranged. (Alternate years, given, 1907-08.) Professor HEDRICK.

15. **Function Theory. First course.** Theory of Functions of a Complex Variable. Elliptic Functions. *Three times a week.* Hours to be arranged. (Alternate years, given, 1906-07.) Professor HEDRICK.

16. **Theory of Differential Equations.** To be preceded by course 7a. *First Semester*: Ordinary Differential Equations. *Second Semester*: Partial Differential Equations. These may be elected or given separately. *Three times a week.* Hours to be arranged. (Alternate years, given, 1906-07.) Dr. WESTFALL.

17a. **Lie's Theory of Continuous Groups, with applications to Differential Equations and Contact Transformations.** Lectures, based on Lie's Works. *Three times a week.* Hours to be arranged. (Alternate years, given, 1907-08.) Assistant Professor AMES.

17b. **Theory of Groups.** General Course. *Three times a week.* Hours to be arranged. (Alternate years, given, 1907-08.) Assistant Professor AMES.

18a or b. **Partial Differential Equations of Mathematical Physics.** Naturally follows course 13a and 13b. *Three times a week.* Hours to be arranged. (Alternate years.) Assistant Professor KELLOGG.

The following courses are also offered when the needs of the students seem to warrant.

19. **Theory of Numbers.**

20. **Analytical Mechanics.**

21a or b. **Integral Equations.**

22a or b. **Theory of Groups.**

23. **Theory of Functions.**

24a or b. **Foundations of Geometry and Non-Euclidean Geometry.**

25a or b. **Calculus of Variations.**

26a or b. **Theory of Differential Equations.**

27. **Mathematical Theory of Sound, or Heat.**

28. **Differential Geometry.**

29a or b. **Theory of Algebraic Invariants.**

The courses past course 5 are open only to those who have secured the permission of the Instructor in the course, and of the Professor in charge. The courses past course 18 are for rather advanced Graduate students and are offered only when specially announced.

30. **Research Courses.** The Professors and Instructors will conduct research work along special lines. These courses may only be undertaken with the very special advice of the professor in charge.

For other courses in mathematical subjects, see Department of Engineering. Teachers College, and courses in Physics.

Mathematical Journal Club. The members of the department and others who desire, will form a club for the examination of current literature and for the discussion of mathematical topics. Meetings will be held and reports made each week on a set day. Criticism and comment will then follow; and any subject of interest to the members of the Club will be discussed, as occasion arises.

Philosophy and Experimental Psychology.

PHILOSOPHY.

Acting Assistant Professor ELKIN (in charge).

For Undergraduates.

1. **Logic.** A study of the fundamental principles of deductive and inductive inference and their practical application, together

with an examination of the most general fallacies committed in reasoning. Section I, T. Th., at 9; Section II, T. Th., at 10:30.

2a. **History of Greek Philosophy.** A study of the development of speculative thought—the beginnings of philosophy, the causes and conditions of the evolution of philosophical systems, and the significance of philosophical ideas as a factor in human progress—from the rise of Greek civilization to the decline of Roman. Emphasis will be laid on the following subjects: the Atomism of Democritus; the Dialectic of Socrates; the Metaphysics of Plato and Aristotle; the Ethical Theories of the Stoics, Epicureans, and Eclectics; Jewish-Greek Philosophy; and Neo-Platonism. M. W. F., at 10:30.

3a. **Practical Ethics.** An introductory study intended for the general student. The following topics will be discussed: the meaning, function, subject-matter, and method of ethics; virtues and duties; self-control; the bodily life; the economic life; the spiritual life; the love of honor; benevolence; justice; charity; veracity; the Greek ideal of conduct; the Christian ideal; the modern ideal. T. Th. S., at 11:30.

For Undergraduates and Graduates.

4b. **History of Modern Philosophy.** This course is a continuation of 2a. The following movements will be treated: the transition from pagan philosophy to Christian; Patristic philosophy; Scolasticism; the Renaissance and Reformation; the rationalism of Descartes and Leibnitz; the pantheism of Spinoza; the empiricism of Locke and Hume; the critical philosophy of Kant; the idealism of Hegel; the common sense philosophy of the Scottish School; pessimism, positivism; and the philosophy of evolution. Open only to students who have had suitable preparation in Philosophy, or in related sciences. M. W. F., at 10:30.

5b. **Ethical Problems.** An examination of the basal concepts of ethics; the nature of ethics; the ground of right; theories of conscience; duty and obligation; theories of the highest good; hedonism; utilitarianism; intuitionism; energism, egoism and altruism; optimism and pessimism; the problem of evil; the relation of morality to religion; character and freedom. This course is a continuation of 3a, and is intended for students of Philosophy. T. Th. S., at 11:30.

6a, 7b. **The Problems of Philosophy.** A consideration of the fundamental problems of philosophy, and a proposed solution. The

following subjects will be examined; the nature of philosophy; the relation of philosophy to science, and to religion; atomism and materialism; mechanism and teleology, parallelism and monism; evolution; pantheism; theism; empiricism; rationalism; skepticism; agnosticism; criticism; realism; idealism. M. W., at 11:30.

Primarily for Graduates.

8. **Seminary in Metaphysics.** This course is open only to students who have had the necessary preparation in Logic, Psychology, Ethics, and the History of Philosophy. *Two or three times a week.* Hours to be arranged.

EXPERIMENTAL PSYCHOLOGY.

Professor MEYER; MR. SISSON.

For Undergraduates.

Only in exceptional cases will Freshmen be admitted to courses in Psychology.

1. **General Psychology.** This course is intended to give a general survey of the whole field of Psychology, either as a part of a liberal education or as a preparation for professional study in Education, Law, or Medicine. The course covers the following ground: Structure and function of the sense organs and the nervous system; sensations, their classification and analysis; perception of space and time; movement and action; attention; memory and the association of ideas; illusions; affection and feeling; emotion and sentiment; will; sleep and dreams; hypnotism; insanity. Texts: Angell's Psychology; Titchener's Experimental Psychology I, Student's Manual. *First Semester*: Section I, T. Th., at 9; Section II, T. Th., at 3, and one laboratory period at hours to be arranged; *Second Semester*: Section I, T. Th. S., at 9; Section II, T. Th. S., at 3.

1a and 1b. **Introduction to Psychology.** Text: Thorndike, Elements of Psychology. This is a briefer course, consisting mainly in the study of the text-book. No laboratory demonstrations. This course does not prepare for the advanced courses in Experimental Psychology. Section I, T. Th. S., at 8; Section II, T. Th. S., at 10:30.

For Undergraduates and Graduates.

These courses are open only to students who have had the course in General Psychology.

2b. **Experimental Didactics.** Application of the methods of the psychological laboratory to problems of interest to the educator. *Three times a week.*

3b. **Differential Psychology.** A study of individual differences of character and intelligence, their causes and their practical significance in life, particularly in school, in civil service and in legal practice. *Three times a week.*

4a. **General Esthetics.** An experimental as well as theoretical study of the psychological laws underlying our appreciation of the beautiful chiefly in the arts of painting, sculpture, and architecture, and also in nature. No familiarity with the technic or history of art is required. The aim of this course is to develop in the student an independent judgment in questions concerning the beautiful. *Three times a week.*

4b. **Theory of Music.** The esthetic laws of music; the psychological differences of primitive and highly developed music, of European and exotic music. *Three times a week.*

5a. **Advanced Psychology.** Discussion of the general principles of scientific investigation. Application of these principles in the criticism of modern psychological theories and problems. *Three times a week.*

6b. **Comparative Psychology.** Mental development in the child and in the race. Experimental methods of child study. Dawning intelligence during animal infancy. Experiments upon the mental processes of animals. Instinct and psychical heredity. Theories of mental evolution. *Twice a week.*

7b. **Abnormal Psychology.** The abnormalities of mental life resulting from inborn, pathological, or artificial causes (such as idiocy, aphasia, somnambulism, hypnosis, etc.) and their educational, medical, and forensic significance. *Twice a week.*

Primarily for Graduates.

8b. **Psychological Seminary and Advanced Laboratory Work.** Critical reading of recent literature. Discussion of special problems and theories. Research work. *Two, three or four times a week.*

Physical Training and Athletics.

Professor HETHERINGTON; Mr. TUTTLE; Miss ALDEN; Dr. MONILAW; Mr. ANDERSON; Miss HELM.

The primary aim of the work in physical training is to foster hygienic habits among the students and supervise their exercises, (1) by giving opportunity to participate in those gymnastic and athletic activities, that lead to a higher functional development; (2)

by stimulating an interest in their physical efficiency and in the pleasures of gymnastic and athletic activities; (3) by giving a general working knowledge of their own physical needs and of the principles of physical training for their own guidance.

All the work of the Department is based on a thorough physical examination given each student at the beginning of the year. The women are examined by the Instructor in charge of the Women's Gymnasium, assisted by a lady physician appointed for the purpose; the men by the Director, assisted by physicians from the Department of Medicine. All students, whether taking work in the Department or not, are entitled to a physical examination and advice as to their physical condition.

After this examination students are assigned work according to their physical needs, tastes, and fitness. Delicate students, both men and women, and those suffering from functional disorders, or curable deformities are given individual attention. Students organically sound are assigned work in a carefully graded and progressive system of educational gymnastics and athletics. The men are graded in divisions, sections, and squads for advanced work, but are not allowed to enter advanced heavy gymnastics or special events in gymnastics or athletics until they have attained the required grade tests. All candidates for athletic teams, class as well as University, not taking regular work, are required to register with the Director and pass the grade tests.

For their value in college life and to those men physically fit to participate in them, intercollegiate contests are allowed. Such contests are considered a part of student body life and the product of student interest, but in order that they may be conducted on good training principles and in accordance with the broader educational aims of the University, they are placed by the Board of Curators of the University under department supervision and control.

All transient coaches are under the immediate supervision of the Director. The business management of all gymnastic and athletic contests is in the hands of a Graduate Manager appointed by the Board of Curators and under the supervision of the Director.

There is no gymnasium fee, but regulation suits are required for men and for women. Prospective students will find it less expensive and more satisfactory to secure their suits in Columbia, according to directions given at the opening of the year.

1. **Practical Training.** Under the head of this course are organized all the various classes of exercises, corrective, systematic,

athletic, offered by the Department. The developmental exercises are arranged in a progressive system by grades. Athletic exercises and sports are co-ordinated with this grading. This course is open to all students in all departments during the entire term of residence in the University. *Three times a week.* One hour's credit a semester for four semesters for Art and Science students, and for Agricultural and Engineering students not taking Military Science and Tactics. Professor HETHERINGTON; Mr. TUTTLE; Miss ALDEN; Dr. MONILAW; Mr. ANDERSON; Mr. EBRIGHT; Miss HELM.

2a. Introduction to Physical Education. The purpose of this course is to give an insight into the main facts of physical training and the practical problems of daily, healthful living from a personal viewpoint. Directions will be given for avoiding the common ills of students, and for maintaining the highest physical and mental conditions while in college as well as gaining the highest development of vital power and health for future duties. This course should be taken by all students during the first year of work. W. F., at 11:30 for half a semester or until November 8. One hour's credit. Professor HETHERINGTON.

Courses for teachers are given under the announcement for the Teachers College.

Physics.

Professor STEWART; Mr. PROCTOR; Dr. REESE; Mr. HOWE; Mr. BULLIVANT; Mr. WINKLER.

For Undergraduates.

Two beginning courses are offered. Those who wish only a general information course should take course 1, while those who have had Trigonometry and who desire a more thorough course should begin by taking course 3. In special cases, students who have had only a good high school course in Physics may be admitted to course 16.

Course 1 is required for entrance to the Department of Medicine; Course 3 is required of all students in Engineering; Course 4 is required of all students in Electrical Engineering.

1. General Physics. This course is intended to cover in an elementary manner the fundamental principles of Physics. It is offered for the benefit of those who wish to acquire some knowledge of the simpler phenomena of Physics. See general statement above *Three times a week.* Two recitations and one laboratory each week.

Recitations: Section I, W. F., at 10:30; Section II, W. F., at 11:30; Section III, T. Th., at 2. Laboratory, M. or T. or F., 1:30-4. Professor STEWART; Mr. PROCTOR.

16. **Electricity and Magnetism.** A non-mathematical course open to those who have taken course 1. It is planned to meet the needs of those who are not yet prepared to take up courses requiring a knowledge of Calculus. Students desiring laboratory work in connection with this course can elect in addition one or two hours of course 8. Those who have had course 8 can not receive full credit for this course. *Three times a week.* M. W. F., at 8. Professor STEWART.

3. **General Physics.** This course covers the same ground as course 1, but in a more thorough manner. An elementary knowledge of Trigonometry is required. This course is divided into two parts: 3A, *four times a week*; and 3B, *twice a week*. 3A may be taken alone, 3B may be taken with 3A or subsequently. Those who have received credit for course 1 or 16 can not receive full credit for course 3.

3A. **Lectures and Recitations.** *Four times a week.* Lectures, T. Th., at 10:30. Professor STEWART. Recitations: Section I, W. F., at 10:30; Section II, T. Th., at 8; Section III, W. F., at 9; Section IV, W. F., at 11:30; Section V, T. Th., at 11:30; Section VI, W. F., at 8. Mr. PROCTOR; Dr. REESE; Mr. HOWE.

3B. **Laboratory.** *Twice a week.* Section I, W. F., 8-10:30; Sec- II, W. F., at 10:30-12:30; Section III, M., 8-10:30, W., 1:30-4; Section IV, M., 10:30-12:30, S., 8-10:30; Section V, Th., 1:30-4, S., 10:30-12:30; Section VI, T. Th., 8-10:30. Mr. PROCTOR; Dr. REESE; Mr. HOWE; Mr. BULLIVANT; Mr. WINKLER.

For Undergraduates and Graduates.

Students intending to specialize in Physics should also take Mathematics. Even in the less mathematical courses some knowledge of Calculus is of great advantage.

8. **Electricity and Light.** This course is entirely laboratory work and must be preceded by either course 1 or 3. It offers training in the more exact methods of laboratory measurements. The work is entirely individual so that the time may be spent either on optical or electrical problems. In Light the work is quantitative, consisting of measurements of wave lengths by interference methods, Fresnel mirrors, interferometers, etc.; determinations of refractive indices; study of resolving power of optical instruments and

similar problems. In Electricity the work is the same as the laboratory work of course 4. *Once, twice, or three times a week.* M. W. F., 1:30-4. Professor STEWART; Mr. PROCTOR.

4. **Electrical Measurements.** *Two or three times a week.* Lecture, M., at 9; Laboratory, M. or W. or F., 1:30-4. A knowledge of Calculus is required. Mr. PROCTOR.

12. **Heat and Light.** Open to those who have completed course 1 or its equivalent. This course is recommended to those who either intend to teach in high schools or desire work more general in character and less mathematical than courses 5, 6, 7, and 15. *Three times a week.* T. Th. S., at 8. Dr. REESE.

17b. **Spectroscopy.** A practical course in the use of various forms of spectroscopes and their applications to physical problems. Open to those who have had course 1 or 3. *Twice a week.* Dr. REESE.

9. **Advanced Work in General Physics.** This course, largely laboratory work, will be adapted to meet the needs and attainments of individual students. A student may be assigned a definite problem, the literature of which must be studied and the experimental work performed with the care of original research. *Two to six times a week.* M. W. F., 1:30-4. Professor STEWART; Mr. PROCTOR.

Primarily for Graduates.

5. **Theory of Light.** Lectures and recitations. *Three times a week.* M. W. F., at 11:30. Professor STEWART.

6. **Theory of Heat.** Lectures and recitations. *Three times a week.* Mr. PROCTOR.

7. **Theory of Electricity and Magnetism.** *Three times a week.* T. Th. S., at 8. Professor STEWART.

10. **Seminary.** Critical reading and discussion of current research work in Physics. A colloquium in which all members of the teaching staff of the department, and students of sufficient attainments take part. *Once a week.* M., at 4.

11. **Research Work.** Hours to be arranged. Professor STEWART.

15. **Theory of Vibrations.** *Twice a week.* Lectures. Dr. REESE.

Other courses in Mathematical Physics are given by the Department of Mathematics and by the Professor of Mechanics in Engineering.

Physiology.

Professor GREENE; Assistant Professor ———; Mr. SUMMERS; Miss BREWER; Mr. DOOLEY; Mr. BAUGHER.

For Undergraduates.

1. **General Physiology.** A general course offered to students who wish a better acquaintance with the principles of Physiology and Personal Hygiene as manifested in their own daily lives. Lectures and demonstrations. *Three times a week.* T. Th., at 10:30; Demonstrations, T. or W., at 2-4. Professor GREENE; Miss BREWER.

2a. **Experimental Physiology.** The physiology and physiological chemistry of the blood, secretion, digestion, nutrition, and excretion. *Four times a week.* Lecture, T. Th., at 8; Laboratory, T. Th., 9-11:30. Assistant Professor ————; Mr. BAUGHER.

3a. **Experimental Physiology.** The physiology of muscle, circulation, respiration, nervous system, and sense organs. *Six times a week.* Lectures, M. W. F., at 8; Laboratory, M. W. F., 9-11:30. Professor GREENE; Assistant Professor ————.

Courses 2a and 3a are parallel courses which may be taken either together or consecutively. They are open only to students whose previous scientific preparation is, upon consultation, deemed adequate.

For Undergraduates and Graduates.

4b. **Physiological Chemistry.** The chemistry of the animal tissue and fluids and the metabolism of the foods. *Three times a week.* Hours to be arranged. Assistant Professor ————.

5b. **Pharmacology.** This course presents the physiological action of chemicals. The laboratory tests are arranged by groups so that students may observe the results of a wide range of experiments. *Four times a week.* Open to students who have had 3b. Lectures, T. Th., at 8; Laboratory, T. Th., 1:30-4. Professor GREENE; Mr. SUMMERS.

Primarily for Graduates.

6. **Advanced Physiology.** Advanced courses in Physiology, Pharmacology, or Physiological Chemistry, open to students who have had sufficient preparation. Hours to be arranged. The work for the year 1907-08 will be mainly as follows: First, The Chemistry of pathological processes. Assistant Professor ————; second, The physiology of the circulatory system and its responses to the action of drugs. Hours to be arranged. Professor GREENE.

7. **Physiological Seminary and Journal Club.** *Once a week.*

8. **Investigation.** Opportunity is here offered for research into questions of current interest in Physiology, Pharmacology, and Physiological Chemistry. Problems will be assigned according to the individual needs of students. Hours to be arranged. Professor GREENE; Assistant Professor ————.

Political Science and Public Law.

Professor LOEB; Mr. PUTNAM.

Courses 4, 5, 7b and 8a are electives in the Department of Law for the degree of Bachelor of Laws.

For Undergraduates.

1. **American Government.** An introductory course dealing with the organization and activities of the American Government, local state, and national. This course or its equivalent is required of all students who wish to elect other courses in Political Science and Public Law. It must be preceded by History 1, or its equivalent. Section I, M. W. F., at 11:30; Section II, M. W. F., at 3.

2b. **American Government.** This course will be a repetition of the first semester's work of course 1. Open to students at the beginning of the second semester. T. Th. S., at 11:30.

For Undergraduates and Graduates.

8b. **Elements of Jurisprudence.** An introduction to the study of law. This course treats of the nature, sources, and classification of law, and includes a consideration of the fundamental concepts of private law. The nature and use of legal authorities will be discussed. T. Th., at 2.

4. **Comparative Constitutional Law.** A comparative study of the constitutional law of the principal states of Europe and America. Particular attention will be given to the field of individual liberty defined in the Constitution of the United States, and interpreted in the decisions of the Supreme Court. *Three times a week.* T. Th., at 3. One additional hour to be arranged.

Primarily for Graduates.

5. **Comparative Administrative Law.** A study of the nature and functions of the administration and the control exercised over it in the United States, England, France and Germany. Governmental structure will be studied in detail and local government will be con-

sidered with special reference to recent development. W. F., at 3.

6a. **Municipal Government.** A sketch of the history of municipalities, followed by a study of the organization and functions of cities in Europe and in the United States. T. Th., at 11:30.

7b. **The Law of Taxation.** A study of the legal rules regulating taxation in the central and commonwealth governments of the United States. Should be preceded or accompanied by Economics 3a. T. Th., at 11:30.

8a. **The Government of Missouri.** A study of the constitutional development of the State from the Louisiana Purchase to the present time, followed by a consideration of the organization and functions of the institutions of the central and local governments. T. Th., at 2.

10. **Seminary in Administration.** A course for the investigation of administrative organization and functions. In 1907-08 topics in Missouri administration will be studied from the sources. ***May be elected for two, three, or four hours.***

Romance Languages.

Professor WEEKS; Assistant Professor DEY; Miss WILLIAMS; Mr. ————.

FRENCH.

For Undergraduates.

1. **Elementary Course.** French Reading and Composition. Fraẑer and Squair's French Grammar. Douay's Elementary French Reader. Section I, M. W. F., at 8; Section II, M. W. F., at 9; Section III, M. W. F., at 2; Section IV, T. Th. S., at 8; Section V, T. Th. S., at 9. Assistant Professor DEY; Miss WILLIAMS; Mr. ——.

2. **Modern Fiction and Plays.** Composition, sight-reading. This course is meant for the second year study of French. Much ground is covered and considerable attention is paid to pronunciation. Several of the books read are: Some of Daudet's Contes du Lundi; Lamartine's Jeanne d' Arc; Bornier's La Fille de Roland; Sandeau's Mademoiselle de la Seigliere; Augier's Le Fils de Giboyer; Rostand's La Princess Lointaine. M. W. F., at 11:30. Miss WILLIAMS.

4. **A Course Parallel to the Second Year's Work Under 2.** This course is intended especially for training in rapid reading and composition. A number of standard novels and plays are read with reports and discussions. M. W. F., at 10:30. Professor WEEKS.

6. **The French Drama.** Reading, reports, and lectures. In this course the development of the drama and the theater in France

will be studied systematically. About fifteen representative plays, selected from the 17th, 18th, and 19th centuries, will be analyzed and discussed. The instructor will feel free to devote a portion of the year, if desirable, to some other branch of French literature. M. W. F., at 11:30. Assistant Professor DEY.

For Undergraduates and Graduates.

8. **General View of French Literature.** A great deal of ground is covered in this course; much reading aloud is done, very little translation. The first semester is devoted to the 17th and 18th centuries, the second to the 19th. Several plays of each of the great classical dramatists are read, together with masterpieces in other branches of literature. T. Th. S., at 11:30. Professor WEEKS.

9. **French Literature in the Eighteenth and Nineteenth Centuries.** Lectures, readings, and reports. The first semester is devoted to the philosophical writers of the eighteenth century, the second semester treats of the fiction, drama, and verse of the nineteenth century, with special attention to the lyric poetry. M. W. F., at 10:30. Miss WILLIAMS.

10. **The Seventeenth Century.** An attempt is made in this course to obtain a general view of the classic period of French Literature. Especial attention is paid to the development of French prose. There is considerable outside reading with written reports from time to time. Selections from nearly all the great writers of the seventeenth century will be read. T. Th. S., at 10:30. Assistant Professor DEY.

13. **Advanced French Composition.** This course is open to all students who have completed course 2 or 4 or their equivalent. M., at 2. Miss WILLIAMS.

Primarily for Graduates.

11. **The Sixteenth Century.** Lectures, readings, and reports. The course includes the period between the close of the literature of the Middle ages and the first year of the seventeenth century, with especial attention to the intellectual forces set in motion by the Renaissance and the Reformation of France. The first semester will be given to a general survey of the period in question. The second semester will deal chiefly with Montaigne and Rabelais, making a careful study of selected portions of their works, and of the influence and significance of their thought. T. Th. S., at 9. Professor WEEKS.

12. **Old French. Paris and Langlois' Chrestomathie.** A study will be made of the manuscript of Guibert d' Andreans. The course usually is conducted in French. Although this course is intended for Graduates, Seniors who have taken with high credit the preceding work and who are making a specialty of Romance Languages, are occasionally allowed to elect it, since it can be pursued advantageously for two successive years. M. W. F., at 9. Professor WEEKS.

14b. **Provencal.** A study of the ancient language and literature of Provence. Reading, phonology, and inflections. Grandgent, *Old Provencal*, Heath & Co., 1905; Crescini, *Manualetto Provenzale*, Padua, 1905. T. Th. S., at 2. Assistant Professor DEY.

ITALIAN.

For Undergraduates.

15. **Beginning Course.** Grammar, reading, composition. Open only to those who have taken course 1 or its equivalent. The object of the course is to obtain an easy reading knowledge of modern Italian, and to this end much ground is covered. Careful attention is paid to pronunciation, and as soon as possible students begin to read aloud without translation. The books used are: Grandgent's Grammar, Bowen's Reader, and specimens of modern prose in fiction and drama. T. Th. S., at 8. Miss WILLIAMS.

For Undergraduates and Graduates.

16. **Advanced Course.** The sixteenth century and Dante. Open to Seniors and Graduates who have had at least two years of French and who possess a fluent reading knowledge of modern Italian. The purpose of this course is to take as comprehensive a view as is practicable of the classical literature of Italy. The work studied will be mostly verse, but outside prose reading will be expected. During the first semester, Machiavelli's Il Principe, Tasso's Gerusalemme Liberata, and portions of Ariosto's Orlando Furioso will be read. The second semester will be devoted mainly to the study of Dante and the Divina Commedia. M. W. F., at 8. Miss WILLIAMS.

SPANISH.

For Undergraduates.

17. **Beginning Course.** Grammar, reading, and composition. Modern Spanish novels and plays. Hills and Ford's Spanish Gram-

mar, stories and plays by Alarcon, Galdos, Moratin, and others, T. Th. S., at 11:30. Assistant Professor DEY.

For Undergraduates and Graduates.

18. **Spanish Literature of the Eighteenth and Nineteenth Centuries.** Lectures, composition, and reading. Open to students who have taken course 17 or its equivalent. The object of this course is to acquaint the student with representative writers of the nineteenth century. A considerable amount of Spanish prose and verse will be read, and there will be composition based upon selected texts. T. Th. S., at 10:30. Assistant Professor DEY.

19. **The Golden Age of Spanish Literature.** Cervantes, Lope de Vega Calderon. Open to students who have taken course 18 or its equivalent. Considerable attention will be given to Don Quijote and other works of Cervantes; and selected plays of Lope de Vega and Calderon will be read. M. W. F., at 10:30. Assistant Professor DEY.

Freshmen are not allowed to elect Beginning Spanish.

Students are strongly urged not to enter upon the study of Spanish until they have studied French, as the instruction in Spanish is based upon a knowledge of French.

PHONETICS.

Primarily for Graduates.

20a. **General Introduction to Philology.** An effort is made in this course to study the phenomena of speech sounds from a physiological standpoint. The University has established a laboratory of Experimental Phonetics for the more accurate study of the living speech. M. W. F., at 2. Professor WEEKS; Professor ALMSTEDT.

21. **Seminary.** An opportunity is here given for advanced work in special subjects. *Twice a week.*

Sociology.

Professor ELLWOOD; DR. RILEY.

No course in Sociology is open to Freshmen. In general course 1, in History, or its equivalent, will be required for entrance to all courses in Sociology. Students intending to specialize in Sociology are advised to take during their Freshman or Sophomore years, courses in Psychology, Zoology, and Physiography (course 2 in Geology) as preparation for Sociology. It is equally important that such students should accompany their work in Soci-

ology with courses in Economics, Political Science, and History. A good reading knowledge of French and German is practically necessary for graduate work in Sociology. Juniors and Seniors who wish to take five hours a week in Sociology are advised to combine course 1 with courses 15a and 16b, courses 10a and 11b, with course 12, and courses 20a and 21b with courses 17a and 18b.

For Undergraduates.

1. **Elementary Sociology.** Lectures on certain fundamental social problems, as e. g., the origin and evolution of the family, the growth of population, immigration, the Negro problem, the growth of cities, the liquor problem, the nature of society. Text-book work and assigned reading. M. W. F., at 9. Professor ELLWOOD.

2. **The Social Teachings of Jesus.** A series of lectures on the relation of Christianity to present social conditions and theories. Assigned reading. If credit is desired this course must be preceded or accompanied by course 1. T., at 2. Professor ELLWOOD.

For Undergraduates and Graduates.

10a. **Modern Charity.** A study of the nature and origin of the dependent and defective classes, the principles and methods of relief, the management of state institutions, etc. Reports by the class on special subjects for investigation. M. W. F., at 10:30. Dr. RILEY.

11b. **Criminal Sociology.** A study of the causes, nature, and treatment of crime; the principles of criminal anthropology, criminal jurisprudence, and penology. Lectures and selected text-books. M. W. F., at 10:30. Professor ELLWOOD.

12. **Preventive Philanthropy.** The role of preventive philanthropy and a study of agencies to prevent the need of remedial philanthropy, including such topics as housing, public sanitation, the promotion of thrift, playgrounds, libraries, increased use of public school property, social settlements, civic associations and clubs industrial insurance and mutual benefits, industrial and compulsory education, child-labor legislation, the juvenile court, etc. T. Th., at 10:30. Dr. RILEY.

15a. **Rural Communities.** A study of the social conditions and institutions of American agricultural communities, with a view to their improvement. T. Th., at 9. Dr RILEY.

16b. **Urban Communities.** A study of the social conditions of American cities, with special reference to the satisfying of communal wants. T. Th., at 9. Dr. RILEY.

17a. The Social Condition of the Laboring Classes. T. Th., at 11:30. Dr. RILEY.

18b. Social Aspects of Education. This course will include an interpretation of the bases and aims of education from the standpoint of Sociology upon curriculum and methods, and certain problems thrust upon education from the field of social pathology. T. Th., at 11:30. Dr. RILEY.

Primarily for Graduates.

20a. Advanced Sociology. A critical study of sociological theory. Lectures, discussions, and theses by the class. M. W. F., at 11:30. Professor ELLWOOD.

21b. Psychological Sociology. A critical study of the writings of Tarde, Le Bon, and Baldwin, with application of psychological principles in the interpretation of social phenomena. M. W. F., at 11:30. Professor ELLWOOD.

25. Anthropology and Ethnology. A study of the evolution of man as an animal, and of the evolution and relations of the different races of mankind. T. Th., at 9. Professor ELLWOOD.

26. Ethnic Psychology. A study of the comparative psychology of races as shown in their customs, institutions, and social organization. Not given 1907-08. Professor ELLWOOD.

27a. The Negro in America. A study of the social, economic, moral, and educational conditions among the Negroes of the United States. *Three times a week.* Hours to be arranged. Dr. RILEY.

30. History of Social Philosophy. Lectures on the development of social thought from Aristotle to the present, especially since the time of Comte. Assigned reading. T. Th., at 11:30. Professor ELLWOOD.

31a. History of Philanthropy and the Poor Law. *Twice a week.* Hours to be arranged. Dr. RILEY.

32b. Socialism. An historical and critical study of socialism since the French Revolution from the standpoint of Sociology. *Three hours a week.* Hours to be arranged. Dr. RILEY.

35b. Social Statistics. An introductory course in statistical method with practical work on a small number of selected problems. *Twice a week.* Hours to be arranged. Dr. RILEY.

40. Seminary. Research work along sociological and philanthropic lines. *Two, three, or four times a week.* Professor ELLWOOD; Dr. RILEY.

Zoology.

Professor LEFEVRE; Assistant Professor CURTIS; Mr. TANNREUTHER; Mr. HOGAN; Mr. LHAMON.

For Undergraduates.

1. **General Zoology.** A course intended to give a general survey of the field of zoological science, and to familiarize the student with a typical series of animal forms. In the laboratory the student studies a selected series of animals, from the simpler forms, such as amoeba and paramoecium, to the complex, such as the earthworm, the mussel, the crayfish, and the frog. The main object in view is to train the student in the exercise of his powers of observation, and at the same time to lay the foundation of the general principles of Zoology, either as part of a liberal education, or as preparation for professional study. Lecture and Recitation; W. F., at 11:30; Laboratory, Section I, M. W., Section II, T. Th., at 1:30-3:30. Assistant Professor CURTIS; Mr. TANNREUTHER; Mr. HOGAN; Mr. LHAMON.

2b. **Theory of Evolution.** A course of lectures on the history of the theory of organic evolution and related problems. The purpose of the course is to introduce the student to this important subject and to point out the general applications of evolutionary doctrine in biological science and the profound influence which the theory has exerted upon human thought in other fields. These lectures form a part of the regular work in Course 1, but students without previous training in Zoology may be admitted to them. F., at 11:30. Assistant Professor CURTIS.

3. **Comparative Anatomy of Vertebrates.** A comparative study of the structure of a series of vertebrates. Lecture S., at 11:30; Laboratory, T. Th., at 1:30-4. Professor LEFEVRE.

4a or 4b. **Comparative Anatomy of Invertebrates.** A comparative study of the structure of a series of invertebrates. Lecture, F., at 9; Laboratory, M. W., 9-11:30. Assistant Professor CURTIS.

5. **Ecology.** A study of the relation of the animal organism to its environment; the habits and behavior of animals; modes of reproduction, and general activities. Observations are made principally upon the living forms. Lectures and Laboratory, M. W. F., 8-10. Assistant Professor CURTIS.

6b. **Embryology of Vertebrates.** The development of the chick and pig is studied in the laboratory, and the observations there

made are used as a basis of comparison for the study of human embryology. Lectures and Laboratory, M. W. F., 10:30-12:30. Professor LEFEVRE; Mr. TANNREUTHER.

For Undergraduates and Graduates.

7b. **Embryology of Invertebrates.** A study of the development of representative forms from the principal phyla of the invertebrates. Lecture, F., at 9; Laboratory, M. W., 9-11:30. Assistant Professor CURTIS.

8. **Cytology.** A study of the cell, with special reference to problems of development and inheritance. Cytological technique. Lectures and Laboratory, T. Th. S., 10:30-12:30. Professor LEFEVRE.

9b. **Experimental Zoology.** An experimental study of growth, reactions to stimuli, development, heredity, and related subjects. This course introduces the student to some of the methods and results of experimental research in Zoology. Lectures and Laboratory, M. W. F., at 8-10. Professor LEFEVRE.

10a. **Principles of Zoology.** A course of lectures treating of some of the main principles underlying zoological science. Emphasis is laid upon problems of variation, heredity, evolution, adaptation, and sex. Collateral reading in the writings of Darwin, Wallace, Romanes, Weismann, Galton, Mendel, de Vries, Morgan, and others. W. F., at 11:30. Professor LEFEVRE.

Primarily for Graduates.

11. **Research.** Special investigation of unsolved problems of Zoology, in which the student is trained in the exercise of original observation and thought. A reading knowledge of French and German is required. Hours will be arranged in accordance with the requirements of individual students.

12. **Seminary.** Meetings at which special subjects of zoological investigation are reported and discussed by instructors and students. Each student is required to give at least six lectures during the year, and experience is thus gained in presenting in the form of lectures, the results of reading and research. For the session of 1907-08 the following subjects will receive special attention in the work of Seminary: Heredity, Sex-determination, and Behavior of Organisms. A reading knowledge of French and German is required. M., at 11:30.

II. TEACHERS COLLEGE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,
Professor of Educational Psychology and Dean of the Faculty.

JOHN CHARLES WHITTEN, B. S., Ph. D.,
Professor of the Teaching of Horticulture.

FREDERICK BLACKMAR MUMFORD, B. S., M. S.,
Professor of the Teaching of Agriculture.

JOHN RUTLEDGE SCOTT, A. B., A. M.,
Professor of Elocution.

CHARLES WILSON GREENE, A. B., A. M., Ph. D.,
Professor of the Teaching of Physiology and Hygiene.

CURTIS FLETCHER MARBUT, B. S., A. M.,
Professor of the Teaching of Physical Geography.

MAX MEYER, Ph. D.,
Professor of Experimental Psychology.

CLARK WILSON HETHERINGTON, A. B.,
Professor of Physical Education.

BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,
Professor of the Teaching of Botany.

FRANK PIERREPONT GRAVES, Ph. D., Litt. D., LL. D.,
Professor of the History and Principles of Education.

HERMANN BENJAMIN ALMSTEDT, B. L., Ph. D.,
Professor of the Teaching of German.

OSCAR MILTON STEWART, Ph. B., Ph. D.,
Professor of the Teaching of Physics.

NORMAN MACLAREN TRENHOLME, A. B., A. M., Ph. D.,
Professor of the Teaching of History.

JUNIUS LATHROP MERIAM, A. B., A. M., Ph. D.,
Professor of the Theory and Practice of Teaching.

HENRY MARVIN BELDEN, A. B., Ph. D.,
Professor of the Teaching of English.

JOHN SITES ANKENEY, Jr., A. B.,
Assistant Professor of Freehand Drawing.

JESSE H. COURSAULT, A. B., A. M., Ph. D.,
Assistant Professor of the Philosophy of Education.

LEWIS DARWIN AMES, A. B., A. M., Ph. D.,
Assistant Professor of the Teaching of Mathematics.

ARTHUR HENRY ROLPH FAIRCHILD, A. B., A. M., Ph. D.,
Assistant Professor of the Teaching of English.

WILLIAM HUTCHINSON COOK,
Instructor in Manual Training.

JOSEPH DOLIVER ELLIFF, A. B., A. M.,
Instructor in School Administration.

FRITZ KRULL,
Instructor in Vocal Music.

HOWARD VERNON CANTER, A. B., Ph. D.,
Instructor in the Teaching of Latin.

CARTER ALEXANDER, A. B., B. S. (in Ed.),
Assistant in School Administration.

HOLLIS HENDRIX THURSTON, B. L., A. M.,
Assistant in Educational Psychology.

General Statement:

The Teachers College is a professional school for teachers, taking rank with the Departments of Engineering, Law, and Medicine. It affords to advanced students preparation for college and normal school instructorships in Education; for work as superintendents and principals of schools; as heads of academic departments in normal schools and high schools; as well as professional training, both theoretical and practical, for teachers in high schools, and in elementary schools; and for special teachers of such technical subjects as Drawing, Manual Training, Music, and Physical Education.

The distinctive feature of the work offered by the Teachers College consists in the courses on Educational Psychology, History of Education, Theory and Practice of Teaching, etc., listed under the head of Education below. A number of courses is also provided in Agriculture, Drawing, Manual Training, and other technical subjects; and while no attempt is made to duplicate the work offered by the College of Arts and Science, there are provided for students of the Teachers College, where practicable, sections of Arts and Science courses, taught by members of the Teachers College faculty. In addition, all work offered by the College of Arts and Science is open to students of the Teachers College, and many courses

in Agricultural subjects may be elected in partial fulfillment of the requirements for the degree of Bachelor of Science in Education.

Teachers College Schools:

In order to supplement its class instruction in educational aims and methods, and to cultivate skill in meeting the actual problems of teaching and administration, this College has developed as an integral part of its work a system of schools for observation and practice. The Professor of Theory and Practice of Teaching is the superintendent of these schools, and he is assisted in the work of supervision by the representatives of departments of instruction who hold positions in the Faculty of the Teachers College.

The practical work, required in connection with all courses in theory and practice of teaching, consists of observation, assistance, and class instruction. All students who receive certificates from the Teachers College are required to demonstrate their ability to teach satisfactorily, under normal conditions, so that a certificate is practically a guarantee of efficiency. Advancement from observation to assistance and from assistance to class teaching, depends upon the candidate's ability to do the work required.

In addition to the schools maintained and controlled by the Teachers College, the numerous public and private schools of Columbia afford excellent facilities for observation and practice, and supplement the advantages offered by the schools of this College, as the Professor of Theory and Practice of Teaching is in close touch with their work.

Requirements for Admission:

The requirements for admission to this Department of the University are stated on pages 55-65.

Degrees and Certificates:

The Teachers College confers only one undergraduate degree, that of Bachelor of Science (B. S.) in Education. It also confers upon properly qualified persons the graduate degrees of Master of Arts (A. M.) and Doctor of Philosophy (Ph. D.).

The Teachers College is authorized by the Legislature of Missouri to confer certificates, valid for life, or for two years, according to the preparation of the candidate, upon persons who, in the judgment of the Faculty, are considered qualified to teach in the public schools of the State. For requirements, see below.

Requirements for Graduation with B. S. Degree:

In order to secure the degree of Bachelor of Science (B. S.) in Education, the student must fulfill the following conditions:

1. He must be regularly admitted to the Department.

2. He must complete during the first two years of his course,—(a) Ten hours of English (Courses 1 and 1A), (b) Six hours of History, (c) Twelve hours of Foreign Languages, (d) Six hours of Mathematics or Logic and Psychology, (e) Six hours of Physical Sciences (Astronomy, Chemistry, Geology and Mineralogy, Physics), (f) Six hours of Biological Sciences (Botany, Zoology, Physiology).

These requirements may be waived on the following conditions:

If the student presents four units for entrance in (b), six in (c), three in (d), two in (e), or two in (f), he will be excused from that requirement. Such exemptions do not excuse him from the requirement of total hours stated below.

3. He must complete work in Education to the amount of twenty-four (24) hours. The greater portion of this work should be taken during the Junior and Senior years.

4. He must complete a course in Experimental Psychology with at least three (3) hours' credit. This course should be completed before the Junior year.

5. The total requirement for graduation is one hundred and twenty (120) hours.

Elective Work:

All elections must be made in accordance with the advice and approval of the Dean. In general, any study in the University which will tend to make the candidate for the degree a more efficient teacher will be regarded as legitimate work for him to elect, but he will not be permitted to elect studies at random. No student will be permitted, except for good reasons and with the consent of the Dean, to elect a course under any other Faculty of the University when a substantially equivalent course is offered in the Teachers College. No student may take more than 16 nor less than 12 hours a week, except by special permission of the Dean.

Certificates:

Certificates to teach for life or for two years in the State of Missouri are conferred upon those who have been regularly admitted to the Teachers College and have fulfilled the special requirements for the kind of certificate sought. In the case of the certificate to teach in secondary schools, the subjects which the holder is specially qualified to teach are named in the certificate.

Special Requirements for Life Certificate to Teach in Secondary Schools:

1. A candidate for this certificate must be able to meet the

requirements for the Bachelor's degree from an institution of good standing.

2. He must complete work in Education and Psychology equivalent to that required for the degree of Bachelor of Science from this College. The required courses in Education are: 4a, 4b, or 10a, 5a, 6, 14a, 19a or 19b, and at least one of the courses in the group 20a-31b. In case the student takes more than one of the last named courses, he may with the consent of the Dean be excused from 14a.

3. He must complete at least eighteen (18) hours in each subject named in his certificate, but the Dean and the instructor in charge of the subject may, at their discretion, require either more or less than this amount under special circumstances.

The above certificate may be taken not only in any of the standard subjects of high school instruction, but also in such subjects as Agriculture, Drawing, Home Economics, Manual Training, and Physical Education.

Special Requirements for Life Certificate to Teach in Elementary Schools:

The following special course has been arranged for students who may wish to prepare themselves for teaching in elementary schools and who cannot afford the time to complete the four years' course for the degree from the Teachers College. Before receiving this certificate the student must have met the entrance requirements and been regularly admitted to this Department.

FIRST YEAR.

First Semester.		*Second Semester.*	
History 3 (American History)	3	History 3 (American History)	3
English 1A (Introduction to English Literature)	2	English 1A (Introduction to English Literature)	2
Nature Study	3	Nature Study	3
Freehand Drawing 2 (Representation)	3	Freehand Drawing 2 (Representation)	3
Manual Training 5 (Elementary School Manual Training)	3	Manual Training 5 (Elementary School Manual Training)	3
Physical Education	1	Physical Education	1
Education 3a (School Management)	3	Education 1b (Introduction to Education)	3
	18		18

SECOND YEAR.

First Semester.		*Second Semester.*	
English 1a (English Composition and Rhetoric)..	3	English 3b (Modern English Literature)	3
Experimental Psychology 1a	3	Education 4b (Educational Psychology)	3
Music 2 (Public School Music)	1½	Music 2 (Public School Music)	1½
Education 3 (Elementary Education)	3	Education 3 (Elementary Education)	3
Physical Geography 6a ...	3	Education 29b (The Teaching of Geography)	2
Physiology 1a	3	Education 18b (Practice Teaching)	3
	16½		15½

Requirements for Two Years' Certificates:

Upon the completion of not less than three-fourths of the total work required for any of the certificates above mentioned, including at least one-half of the requirements in Education and Psychology, that certificate may be granted to a teacher for a period of two years. Such certificate will not be renewed, but if in the course of two years the remaining requirements are made up, the Life Certificate may then be conferred.

Special Students:

All students who are candidates for a teachers' certificate or for the degree are counted regular students of the Teachers College. In addition to these, persons of proper qualifications are admitted who wish, without reference to the degree or a certificate, to make a serious study of some special phase of Education or to gain a knowledge of fields they have hitherto neglected, e. g., Free-hand Drawing and Manual Training.

Such students are subject to the general rules of the University regarding Special Students. See page 67.

They will not be given a certificate, but a statement will be furnished them setting forth the nature and amount of work done while in attendance at the Teachers College.

Graduate Work:

For teachers of experience who already hold the Bachelor's degree from an institution of good standing, opportunities are provided to carry on graduate work in Education leading to the de-

grees of Master of Arts (A. M.) and Doctor of Philosophy (Ph. D.). See courses in detail, below, and also page 101.

University Fellowships and Scholarships are open to properly qualified graduate students in this Department. For details see page 97.

Recommendation of Teachers:

The Dean is in regular correspondence with superintendents and directors of schools, and when vacancies occur, is in a position to recommend persons qualified to fill the positions.

Courses for Teachers in the Summer Session:

All of the courses offered in the Summer Session of the University are arranged with a view to the needs of teachers, and special courses in Education, Manual Training, Nature Study, etc., are given a prominent place. The Summer Session is primarily a session of the Teachers College.

In the Summer of 1907 courses will be offered in the following subjects: Agriculture, Botany, Chemistry, Civics, Economics, Education, Elocution, English, Freehand Drawing, French, German, History, Horticulture, Latin, Manual Training, Mathematics, Music, Philosophy, Physical Geography, Physics, Physiology, Psychology, Spanish, and Zoology. The session will open June 8 and continue till August 7.

Full information regarding details may be had upon application to Dean Albert Ross Hill, Columbia, Missouri.

COURSES IN DETAIL.

(Courses designated by a number with the letter *a* attached, thus: 4a, 6a, are given the first semester only. Those designated by a number with the letter *b* attached, thus: 4b, 6b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Capital letters attached to the number of a course have no reference to semester or session.)

(A) EDUCATION AND PSYCHOLOGY.

I. Education.

Professor HILL; Professor GRAVES; Professor MERIAM; Assistant Professor COURSAULT; Mr. ELLIFF; Mr. ALEXANDER; Mr. THURSTON; and SPECIAL LECTURERS.

For Undergraduates.

1a or 1b. Introduction to the Study of Education. This course aims quite as much to train the student to proper habits and meth-

ods of study as to introduce him to the problems of Education. After some discussion of the meaning and aims of Education, of the art of study, and the methods of teaching, a general presentation of educational ideals and institutions in their historic setting is made. This course is intended primarily for Freshmen and Sophomores in the Teachers College, but Sophomores in Arts will also be permitted to take it, and count it toward the A. B. degree. This course is not open to Juniors and Seniors. Professor GRAVES.

2a. **School Management.** A study of the main problems in school management from the standpoint of the teacher in the grades; school incentives, government, school hygiene, etc. *Three times a week.* Hours to be arranged. Professor MERIAM.

3. **Elementary Education.** A detailed and critical study of the methods of teaching the subjects of the primary and grammar grades; correlation of studies in the grades; the curriculum of the elementary school, etc. *Three times a week.* Hours to be arranged. Professor MERIAM.

4a or 4b. **Educational Psychology.** This course is designed to present the main facts concerning the nature and development of the mind during childhood and youth, with special reference to the meaning of these facts to the teacher. It aims to prepare students for classroom work and for the Theory and Practice of Teaching and the other courses in Education. It presupposes Experimental Psychology 1a, or its equivalent. *Three times a week.* Hours to be arranged. This course can be taken for credit toward the A. B. degree. Professor HILL.

5a. **Theory of Teaching.** A general course which aims to formulate a method of class work, and to illustrate as fully as time will permit, its application to subjects in all grades of school work. *Three times a week.* Hours to be arranged. Professor MERIAM.

6. **History of Education.** The educational theories and practices of the periods of history during which the basic principles of education have been formulated. Lectures, assigned readings, reports, and discussions. Monroe's History of Education, and Graves's Introduction to the History of Education are used as outlines of the work, but the subject is studied topically and references will be constantly made to the sources. This course is allowed credit in the College of Arts and Science. *Twice a week throughout the year.* Professor GRAVES.

For Undergraduates and Graduates.

10a. **Educational Psychology** (Advanced Course). This course may be taken after course 4a or 4b or independently of it. More

scientific methods of study will be followed than in 4a and 4b, and no student will be permitted to take it before the Junior year. It presupposes course in Experimental Psychology, or its equivalent. It is allowed credit in the College of Arts and Science. Professor HILL.

11b. **Principles of Education.** This course aims to develop the fundamental principles upon which educational procedure should rest, through a study of the biological, ethical, psychological, and sociological aspects of education. It presupposes Experimental Psychology 1a and a general course in either Ethics or Sociology. It may be taken for credit in the College of Arts and Science. Assistant Professor COURSAULT.

12a. **Educational Classics.** A more advanced course in the History of Education than 6. A critical study of a few great classics in Education will be made a prominent feature of the course. It presupposes European History 1 and the general course in History of Education, or their equivalents. *Three times a week.* Hours to be arranged. This course may be taken for credit in the College of Arts and Science. Professor GRAVES.

13b. **History of Education in the United States.** Research work on the development of the organization and administration of the public school system of this country. *Twice a week.* Professor GRAVES.

14a. **Secondary Education.** The history, curriculum, organization, and administration of secondary education in the United States. The course is intended primarily for those who are preparing to become high school teachers and principals. *Three times a week.* Hours to be arranged. Assistant Professor COURSAULT.

15b. **School Systems.** A comparative study of the school systems of Germany, England, France, Canada, and the United States. *Three times a week.* Hours to be arranged. Professor GRAVES.

16b. **School Supervision.** The leading topics in school administration are discussed, such as: construction, heating, ventilation, lighting, sanitation, and equipment of school buildings; playgrounds; relation of superintendent to boards, teachers, pupils, and citizens; grading, promotions, etc. *Three times a week.* Hours to be arranged. Professor MERIAM and Mr. ELLIFF.

17. **Class Criticism.** This course consists of a discussion of concrete problems, arising in class room work, based on the principles formulated in 5a. These problems are studied in the class room while the student is either teaching or observing. This course is required of all students teaching in the High School and is open

to other advanced students, especially those who anticipate supervisory work. One hour each semester. Professor MERIAM.

18a, 18b. **Practice Teaching for Elementary Teachers.** Hours and credit must be arranged with the instructor before registration. Professor MERIAM.

19a, 19b. **Practice Teaching for High School Teachers.** Hours and credit must be arranged with the instructor before registration. Professor MERIAM and Assistant Professor COURSAULT.

20a. **The Teaching of Botany.** A course of lectures, with demonstrations and laboratory work, when necessary, upon certain fundamental topics and upon available botanical materials and methods. The whole field of botanical work which may be taught in high schools or colleges will be systematically discussed and reported upon. *Twice a week.* Hours to be arranged. Professor DUGGAR.

21a. **The Teaching of Reading.** This course comprises: (a) The criteria of vocal expression—time, pitch, quality, and force—with copious examples; (b) The method of teaching children to read. Text: S. H. Clark's "How to Teach Reading in the Public Schools." *Three times a week.* Hours to be arranged. Professor SCOTT.

22a or 22b. **The Teaching of English.** Lectures and discussions on the teaching of English in public schools. Professor BELDEN.

23b. **The Teaching of Art.** Critical study of theories and methods in the teaching of art. Hours to be arranged. Open only to advanced students. *Twice a week.* Hours to be arranged. Assistant Professor ANKENEY.

24b. **The Teaching of German.** A course of lectures and discussions on the teaching of German in secondary schools; consideration of text-books, grammars, readers, etc.; consideration of difficulties, such as occur in pronunciation, syntax, idiom. *Two hours.* Hours to be arranged. Professor ALMSTEDT.

25b. **The Teaching of History.** In this course the meaning and value of history, the methods to use in teaching it in high schools, aids to its study, and other such topics, will be dealt with in formal lectures and discussions. Short reports will be called for from members of the class and special lectures will be given from time to time by the various instructors in history. Bourne's "Teaching of History and Civics," and the report of the "Committee of Seven" on "The Study of History in Schools" will be used as text-books. T. Th., at 2. Professor TRENHOLME.

26b. **The Teaching of Latin.** Lectures and discussions on the aims and methods of instruction in Latin in secondary schools. *Twice a week.* Hours to be arranged. Dr. CANTER.

27b. **The Teaching of Manual Training.** A course of lectures and discussions on the aims and methods of teaching the various branches of manual training in the high and elementary schools. *Twice a week.* Hours to be arranged. Mr. COOK.

28a. **The Teaching of Mathematics.** Lectures and discussions on the teaching of Mathematics with special reference to high school instruction. *Two hours.* Hours to be arranged. Assistant Professor AMES.

29a or 29b. **The Teaching of Geography.** A course of lectures and occasional field and library work on the teaching of geography. It will consider the content of public school geography, the methods of teaching, the aim of the subject, and the sources of material for properly illustrating it. The geography of the whole public school course will be considered, though most emphasis will be laid on the work in the 6th, 7th, and 8th grades, and in the high school. *Twice a week.* Hours to be arranged. Professor MARBUT.

30b. **The Teaching of Physics.** Discussions on the teaching of Physics in high schools, instruction regarding the construction of apparatus, etc. *Twice a week.* Hours to be arranged. Professor STEWART.

31a or 31b. **The Teaching of Physiology.** Lectures and demonstrations on the selection and utilization of materials and on the methods of teaching Physiology in the grades and in high schools. *Twice a week.* Professor GREENE.

Primarily for Graduates.

40. **Philosophy of Education.** The purpose of this course is to give insight into the significance of education as a conscious effort towards human evolution by a study of its relation to the life process, and thus, by giving clearer insight into the aims and methods of education, help to make educational practice a rationalized endeavor rather than a mere routine. This course is open only to students who have had training in Philosophy. *Three times a week.* Assistant Professor COURSAULT.

41. **Seminary in Educational Psychology.** The special problems selected for study will depend upon the interests of those taking the course, the aim being to guide advanced students of Education in constructive work in the theory of Education through a detailed study of a few aspects of mental development. The course is open only to students who have had considerable training in both Education and Psychology. *Twice a week.* Hours to be arranged. Professor HILL.

42. **Seminary in the History of Education.** A critical investigation of topics in connection with the thesis work for the Graduate Degrees. *Twice a week.* Hours to be arranged. Professor GRAVES.

43. **Seminary in School Administration.** A research course in school organization and administration, with special reference to city school systems. The course is open only to teachers of considerable experience in school supervision, or who are otherwise qualified to undertake research work. *Twice a week.* Hours to be arranged. Professor MERIAM; Mr. ELLIOTT.

II. Experimental Psychology.

Professor MEYER.

1a or 1b. **Introduction to Psychology.** Text: Thorndike's Elements of Psychology. This course alone does not prepare for advanced courses in the Department of Experimental Psychology. Students who want Psychology merely as a preparation for work in the Department of Education, may take this course. It consists mainly in the study of the text-book; no laboratory demonstrations.

1. **General Psychology.** This course is broader than course 1a. It gives a general survey of the whole field of Psychology for those who take a more special interest in Psychology, either as a part of a liberal education, or as a preparation for professional study in Education, Law, or Medicine. The course covers the following ground: Structure and functions of the sense organs and the nervous system; sensations, their classification and analysis; perception of space and time; movement and action; attention; memory and the association of ideas; illusions; affection and feeling; emotion and sentiment; will; sleep and dreams; hypnotism; insanity. Students who take this course must have some knowledge of Physics. Texts: Angell's Psychology; Titchener's Experimental Psychology, Student's Manual.

2b. **Experimental Didactics.** Application of the methods of the Psychological laboratory to problems of interest to the educator. *Three times a week.* Hours to be arranged.

For advanced courses in Psychology, see the announcement of the College of Arts and Science under Philosophy, and Experimental Psychology.

(B.) TECHNOLOGICAL COURSES.

In addition to the professional work in Education and Psychology, the following courses are offered as preparation for the teaching of certain technical subjects:

I. Agriculture and Horticulture.

(a) *Agriculture.*

Professor MUMFORD.

1a. Soils and Plant Studies, with Reference to Agriculture. This course will aim to give a clear general knowledge of the principles of Agriculture. The character of the work is adapted to those who are preparing to teach in the elementary schools. *Three times a week, first semester.* Hours to be arranged.

2. The Principles of Agriculture. Fundamental conceptions of soils, plants and animals, and their applications to Agricultural practice. Lectures, reading, laboratory work, and field excursions. A course for high school and academy teachers. *Three times a week.* Hours to be arranged.

For other courses in Agriculture that may be elected by students in the Teachers College, see College of Agriculture.

(b) *Horticulture.*

Professor WHITTEN.

1b. Cultivated Plants. How they grow under culture, their relation to their environments, and common methods of propagating and managing plants; the materials for a school garden and how to use them. Lectures and laboratory. This course is intended for those who are preparing to teach in elementary schools and who may not have time for the longer courses offered by the department. *Three times a week.* Hours to be arranged.

1a and 2b. These two courses taken together constitute a year's work in which the topics mentioned in 1b are given fuller and more scientific treatment. They can be taken after 1b or independently of it, and are designed to meet the needs of those who are preparing to teach in any branch of biological science. *Three times a week.*

4a. The Evolution of Cultivated Plants. Lectures and assigned readings. A study of organic evolution as applied to the modifications of plants, particularly those in cultivation. *Three times a week.* Hours to be arranged.

For other courses in Horticulture open to students in the Teachers College, see College of Agriculture.

II. Elocution.

Professor SCOTT.

1. *First Semester*: Foundation theory and practice of vocal culture and expression. *Second Semester*: Principles of bearing,

walk, and gesture; the practice of short oratorical extracts, with the study of the *rationale* of appropriate utterance and action. *Three times a week.* Text-book: Raymond's Orator's Manual.

2. **Advanced Work.** The interpretative study of plays, scenes, poems, and imaginative literature generally. This course must be preceded by course 1. *Three times a week.*

For a course on the Teaching of Reading, see Education 21a.

III. Freehand Drawing.

Assistant Professor ANKENEY.

2. **Representation.** An introductory course giving a general survey of delineation. The principles and theories are presented in lectures with some collateral reading. Practice in drawing with pencil, pen and ink, wash, and in painting with water colors. *Three times a week.*

During the second semester the experimental practice in course 2 is differentiated somewhat to suit the needs of the individual student. Those taking this course as a direct aid to scientific work, to the history of art or other University courses, should so inform the instructor.

3. **Design.** The theory of design; design as fundamental to the fine arts (architecture, painting, sculpture), and crafts; the principles and bases; evolution in design. Lectures, reading, study of examples, original exercises. *Three times a week.* Hours to be arranged.

5. **Construction.** Consideration of past and present usage in the artistic construction of the human figure. Lectures, study of examples, and reading. Drawing and modeling from cases and life. *Three hours credit each semester.*

6. **Tone.** Analysis of the composition and relation of tones (value, color quality, intensity), with the equivalents in pigments. *Three hours credit each semester.*

Students in courses 5 and 6 attend a sketch class Tuesday evenings, 7 to 9, and are given a subject for composition twice each month.

7. **Painting.** Style, theory, and methods of various schools and movements. Lectures, study of examples, and reading. Experimental practice in painting from landscape and life, with work in original composition. *Three hours credit each semester.*

For a course on the Teaching of Art, see Education 23b.

IV. Manual Training.

Mr. Cook.

The equipment for instruction in Manual Training is very complete, combining much that is used in the Engineering shops with such special equipment as the work itself demands. Among special pieces may be mentioned the China Kiln for the firing of Pottery, the Potters' Wheel, the tools for the work in elementary forging, and the special Sloyd Benches.

4. **Manual Training for Kindergarten and Primary Teachers.** This course consists of a system of handwork within the reach of any city or rural school, and deals with those forms that are most practicable and significant in the Kindergarten and the lower grades of the elementary school. The lines of work studied include basketry in simple form, clay-modeling, construction in paper and cardboard, knotting—plaiting—and weaving of raphia, the weaving of linen and woolen yarns, etc. *Three times a week. Six hours credit.*

5. **Manual Training for Teachers in the Intermediate and Grammar Grades.** This course in some respects parallels the former course, but the character of the work required is quite different.

(a) *Clay.* The work in this course will consider the nature of pottery and questions of glazing, underglaze color, and firing, and work of more difficult nature will be attempted than in the previous course. The Potters' Wheel will be used to some extent.

(b) *Raphia.* In raphia the work will consist of the basketry forms worked out as in the Indian basket, and some work in netting, knotting, and fringing will be a feature.

(c) *Weaving.* The student in this course will be required to work out some designs in either linen or wool or both. The looms used will be made by each student and their construction will form part of the requirements in elementary benchwork.

(d) *Macrame.* Some work in knotting and netting will be given.

(e) *Rattan.* This popular basketry course will be thoroughly treated.

(f) *Bent Iron.* This will be a thorough course in the Venetian Iron work and some additional work with the use of heat in the manner of ordinary forge work.

(g) *Elementary Benchwork.* Introduced by the familiar "Whittling Sloyd." This course will take up the simpler bench opera-

tions; a fairly thorough contact with wood-working tools will be given. M. W. F., 1:30-4. *Six hours credit.*

6. **Manual Training for High School Teachers.** This course is in natural sequence with the previously described benchwork course, but in it is required a very much more thorough use of tools, and some work is given in forging and wood turning. The student must become familiar with the methods of keeping the tools in order, their relative merits, and their cost.

Mechanical drawing is required as part of the course, and the student is also required to do selected reading from the reference library of works on manual training. *Three hours credit each semester.*

For a course on the Teaching of Manual Trainnig, see Education 27b.

V. Music.

Mr. KRULL.

The courses in the department fall into three divisions.

1. **General Musical Culture.** In this course, music is treated historically and aesthetically as an element of liberal culture. The technical side of the art is explained and the lectures are supplemented by illustrations and analyses. It is the aim of the course to familiarize the student with operatic, orchestral, instrumental, choral and vocal culture—a knowledge of which is a part of a liberal education. *Once a week.* One hour's credit for the year.

2. **Elementary Public School Music.** This course aims to fit teachers for conducting the music in the public schools. It embraces sight reading, the elements of music, vocal culture, and interpretation. *Three times a week.* Three hours' credit for the year.

3. **Advanced Public School Music.** This course trains persons who wish to fit themselves as supervisors of music. It presupposes ability to read music and a knowledge of either the piano or organ, and embraces the study of harmony, theory of music, vocal culture and interpretation. *Three times a week.* Four hours' credit for the year.

Opportunity is offered all students to study choral works by singing in the University Chorus.

The opportunities for specializing as instrumentalists or vocalists, though not a part of any course, are offered by a number of creditable teachers, who can be recommended by the department.

A collection of music and reference books is placed at the disposal of the students.

VI. Physical Education.

Professor HETHERINGTON.

1. **Practical Training.** Under the head of this course are organized all the various classes of exercises, corrective, systematic, athletic, offered by the Department. The development exercises are arranged in a progressive system by grades. Athletic exercises and sports are co-ordinated with this grading. This course is open to all students in all departments during the entire term of residence in the University. *Three times a week.* One hour's credit a semester for four semesters.

2a. **Introduction to Physical Education.** The purpose of this course is to give an insight into the main facts of physical training and the practical problems of daily healthful living from a personal viewpoint. Directions will be given for avoiding the common ills of students, and for maintaining the highest physical and mental condition while in college as well as gaining the highest development of vital power and health for future duties. This course should be taken by all students during the first year of work. W. and F. at 11:30 for half a semester or until November 8. One hour's credit. Professor HETHERINGTON.

Courses Primarily for Teachers.

3a. **Principles of Physical Education.** This course considers physical education in the light of its sociological and educational significance. It takes up the values of physical training, the "hygiene" of exercise, the "systems" of exercise and the adaptation of exercises to different ages and individual capacities. The course is framed primarily for teachers and those desiring a scientific insight into the subject. It is a continuation of and includes course 2a. *Twice a week.* Professor HETHERINGTON.

4a, 4b. **General Technique of Gymnastics.** Introduction to apparatus nomenclature, the management of sections and instruction in leading sections. Open to all students acting as leaders in 1a and 1b classes. T. Th., at 11:30; M. W., at 5. One hour's credit per semester in Teachers College in addition to the credit given in 1a and 1b.

5. **Analysis and Grading of Exercises.** Details announced later.

6. **General Technique of Athletics and Training.** Details announced later.

7b. **Class Management.**

VII. Home Economics.

For courses in this subject, see the statement under the School of Agriculture.

(C.) COURSES IN ARTS AND SCIENCE.

Courses of the Teachers College in Arts and Science subjects have a little different purpose from the corresponding work in the College of Arts and Science. While the cultural and content sides of these subjects are not neglected, the pedagogical aspect is especially emphasized. Teachers College students are, therefore, taught in different sections from those in the College of Arts and Science, and, as far as possible, by different instructors.

I. Botany.

Professor DUGGAR.

1a. **General Botany.** The first half of the semester is devoted to a study of the cell structure and the fundamental principles of plant physiology. The student is taught to set up experiments and to keep records of observations on plant activities. In the second half of the semester a series of cryptogams is studied from the point of view of development.

2b. **General Botany.** This course continues the study of representative groups begun in 1a, dealing with the morphology and life histories of certain gymnosperms and angiosperms, concluding with some general work in Ecology.

The foundation work in Botany is offered through courses 1a and 2b. These courses or their equivalents are prerequisites for all other regular work in the subject, and these at least should be taken by students who may teach in any branch of biological science.

Those who wish to secure a certificate to teach Botany in high schools should in addition, elect from the courses offered in the College of Arts and Science. They should get advice in arranging their course.

For a course on the Teaching of Botany, see Education 20a.

II. English.

Professor BELDEN; Assistant Professor FAIRCHILD.

1. **English Composition and Rhetoric.** Detailed study and practice in construction and the kinds of Composition. Lectures, exer-

cises and themes; class-room study of literature illustrative of the different kinds of Composition. *Three times a week.* Professor BELDEN; Assistant Professor FAIRCHILD.

1A. **Introduction to the Study of Literature.** An elementary course for first year students, and preliminary to all other courses in literature. Selected readings from poets; some essays, probably from Carlyle and Stevenson. Emphasis upon the interpretation and appreciation of literature rather than upon its historical development. Lectures and quizzes. *Twice a week.* Assistant Professor FAIRCHILD.

3. **English Literature, General View.** A general survey of English literature, for second year students. Interpretation of representative authors, with some emphasis upon historical development. *First semester*: Chaucer to Shakespeare. *Second semester*: Milton to the present. *Three times a week.* Assistant Professor FAIRCHILD; Professor BELDEN.

Those wishing to secure a certificate to teach English in the high schools should elect, in addition, 11a and one or more of the following courses offered in the College of Arts and Science: 4, 7, 10.

For a course on the Teaching of English, see Education 22a or 22b.

III. German.

Professor ALMSTEDT.

1. **Beginning Course in German.** During the second semester easy prose-reading. It is the aim in this course to give in as thorough a manner as possible the essential facts of elementary German Grammar; pronunciation, forms, and syntax. Various forms of drill, oral and written, will aid in reaching the desired end: an accurate, thorough, and facile knowledge of Elementary German. *Three times a week.* Text: Vos' Essentials of German.

Persons wishing to secure a certificate to teach German in high schools should, in addition, elect at least courses 2 and 3, offered by the College of Arts and Science under the head of Germanic Languages.

For a course on the Teaching of German, see Education 24b.

IV. History.

Professor TRENHOLME.

1. **European History.** An introductory course in which the history of the nations of Europe during the mediaeval and modern

periods will be dealt with in as comprehensive a manner as is consistent with thoroughness of knowledge and definiteness of outline. Students should have copies of the following texts: Trenholme's "Syllabus for the History of Western Europe;" Robinson's "History of Western Europe;" and Robinson's "Readings in European History," (abridged ed.). *Three times a week.*

Students wishing to secure a certificate to teach History and Civics in the high schools should, in addition, elect two or more of the courses in History, preferably English History and American History, and course 2b in Political Science offered by the College of Arts and Science. Greek and Roman History can also be taken with advantage.

For a course on the Teaching of History, see Education 25b.

V. Latin.

Dr. CANTER.

1A. **Cicero and Vergil.** *First Semester*: Selected Orations and letters of Cicero, De Senectute or De Amicitia. *Second Semester*: Vergil's Aeneid. *Three times a week.*

Persons wishing to secure a certificate to teach Latin in the high schools should, in addition, elect from the following courses offered by the College of Arts and Science, 2, 4, 5, 10, 12b.

For a course on the Teaching of Latin, see Education 26b.

VI. Mathematics.

Assistant Professor AMES.

1. **Algebra, Trigonometry, and Analytic Geometry.** *Three times a week.*

3. **Calculus, Short Course.** A cultural course for persons who do not intend to specialize in Mathematics. It contains the essentials of the Calculus, a few applications, and supplementary work in Analytic Geometry, purposely omitting many difficult theorems and problems. *Three times a week.*

10b. **History of Mathematics.** This course is designed to follow Education 28a. It presupposes course 3 in Mathematics, but by special arrangement may, in some cases, be taken with it. The aim is to present by reading and lectures the history of elementary mathematics, with special reference to the teaching of the subject, and a brief account of the history, meaning, and purpose of the Higher Mathematics. Hours to be arranged.

Persons wishing to secure a certificate to teach Mathematics

in high schools should elect, in addition, any one or more of the courses 5, 6a, 6b, 7a, 7b, offered by the College of Arts and Science.

For a course on the Teaching of Mathematics, see Education 28a.

VII. Physical Geography.

Professor MARBUT.

2. **Physiography of North America.** A detailed study of the morphology of the surface of these two continents. It is designed for teachers of Physiography and for students who intend to specialize in Economics, History, or Sociology. *Three times a week.*

3b. **Physiography of Europe.** A companion course to course 2. It is designed to meet the needs of the same class of students. *Three times a week.*

6a or 6b. **Physical Geography.** This is a course of study in general Physical Geography, covering the ground of the average high grade text-book. It will be presented as a lecture, library, and laboratory course, and may be taken as a preparation for a more advanced geographic work, or, as a preparation for teaching the subject in high schools. *Three times a week.*

Course 6a or 6b is intended primarily for students who wish to teach Physical Geography and have not had a good course in that subject in the high school. Courses 2 and 3b are especially adapted to the needs of students who are preparing to teach Physical Geography in the high schools of Missouri. However, students who wish to secure a certificate to teach Physical Geography should, in addition, elect from the following courses in Geology offered by the College of Arts and Science: 4b, 5, and 9.

For a course on the Teaching of Geography see Education 29a or 29b.

VIII. Physics.

Professor STEWART.

Two beginning courses are offered. Those who wish only a general information course, should take course 1; while those who have had Trigonometry and who desire a more thorough course, should begin by taking 3. In special cases students who have had only a good high school course in Physics, may be admitted to 16 (see details in the announcement of the College of Arts and Science).

1. **General Physics.** This course is intended to cover in an elementary manner the fundamental principles of Physics. It is offered for the benefit of those who wish to acquire some knowledge of the simpler phenomena of Physics. *Three times a week.* Two recitations and one laboratory each week.

3. **General Physics.** This course covers the same ground as course 1, but in a more thorough manner. An elementary knowledge of Trigonometry is required. This course is divided into two parts: 3A, *four times a week*, lectures and recitations, and 3B, *twice a week*, laboratory work. 3A may be taken alone. 3B may be taken in conjunction with 3A or subsequently.

For hours and other details of above courses, see the courses as announced in College of Arts and Science.

Persons desiring to secure certificates to teach Physics must elect, in addition to one of the above, from the courses as announced in the College of Arts and Science until they receive a total credit of at least 18 hours. Courses 16, 12, 8, or 17 are open to those who have had course 1; or in case of sufficient mathematical attainments, courses 5, 6, 7, or 15 are open to those who have completed 1 and 16, or 3A and 3B.

For a course on the Teaching of Physics, see Education 30b.

IX. Physiology and Hygiene.

Professor GREENE.

1. **General Physiology.** An elementary course offered to students who wish a better acquaintance with the principles of Physiology and personal Hygiene as manifested in their own daily lives. *Three times a week.*

Students desiring a certificate to teach Physiology in the high schools of the State, should, in addition, elect at least two of the courses offered by the College of Arts and Science.

For a course on the Teaching of Physiology, see Education 31a or 31b.

III. COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

Historical Statement:

This college had its origin in the beneficence of National, State, and local governments. Its location, objects and aims are defined in the following extracts from the Acts of Congress and the laws of the State of Missouri:

"There are hereby established a College of Agriculture and Mechanical Arts at Columbia, and a School of Mines and Metallurgy at Rolla, provided for by the grant of the congress of the United States, as distinct departments of the University of the State of Missouri. (R. S. of Missouri, 1899, sec. 10504.)

"The leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." (Act of Congress, July 2, 1862, sec. 4.)

"To effect the leading objects of the colleges, as herein established, it is provided that the students and members thereof shall be admitted to the library, museums, models, cabinets, and apparatus, and to all lectures and instructions of the University, which now exist or may hereafter exist, and to all other rights and privileges thereof, in a manner as full and ample as the students of any other department in said University; and to provide for instruction in military tactics, as herein required, it is enacted that in case a system of military education shall be established by congress, the University of the State of Missouri is hereby required by law to make the necessary provisions for carrying out the plan so established in connection with the institution." (R. S. of Missouri, 1899, sec. 10507, p. 2017.)

"The College of Agriculture and Mechanic Arts and the School of Mines and Metallurgy, herein provided for, shall have each a separate and distinct faculty, whose officers and professors may be the same in whole or in part as the officers and professors in other colleges, and departments of the University." (R. S. of Missouri, 1899, sec. 10508.)

The citizens of Boone county made a donation of $90,000 for the erection of a building and the purchase of lands for an experimental farm and this College was permanently located at Columbia as a Department of the University, and the School of Mines and Metallurgy was located at Rolla, in Phelps county. The latter is under the same general control as the College of Agriculture and Mechanic Arts.

Endowment of the College:

1. The proceeds of the sale of public lands donated to Missouri by the act of Congress of July 2, 1862. The State received as her share two hundred and seventy-five thousand acres, of which there have been sold up to date two hundred and thirty thousand nine hundred and three acres, yielding three hundred and fifty-five thousand dollars. This sum is invested in State certificates of indebtedness, at 5 per cent, and yields seventeen thousand five hundred dollars. Of this amount one-fourth is by law appropriated to the support of the School of Mines and Metallurgy, at Rolla.

2. The annual appropriation of $25,000, under the act of Congress of August 30, 1890 (Morrill bill). Of this amount one-sixteenth is by law appropriated to the "Lincoln Institute," at Jefferson City, for the education of negro children in Agriculture and Mechanic Arts, and one-fourth of the remainder is given to the School of Mines and Metallurgy, at Rolla.

3. The College Farm, which cost originally $60,000.

4. $30,000 from Boone county.

The above sums, together with the assistance derived from the association of the College of Agriculture with the University, furnish an abundant income for all purposes of instruction and scientific investigation.

A. SCHOOL OF AGRICULTURE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

HENRY JACKSON WATERS, B. S. A.,
Dean of the Faculty, and Director of the Experiment Station.

PAUL SCHWEITZER, Ph. D., LL. D.,
Emeritus Professor of Agricultural Chemistry.

EDWARD ARCHIBALD ALLEN, Litt. D.,
Professor of English Language and Literature.

JOHN WALDO CONNAWAY, D. V. S., M. D.,
Professor of Comparative Medicine and Veterinarian to the Experiment Station.

JOHN CHARLES WHITTEN, B. S., M. S., Ph. D.,
Professor of Horticulture and Horticulturist to the Experiment Station.

FREDERICK BLACKMAR MUMFORD, B. S., M. S.,
Professor of Animal Husbandry, in charge of the Animal Husbandry Department of the Experiment Station.

JOHN MOORE STEDMAN, B. Sc.,
Professor of Entomology, and Entomologist to the Experiment Station.

WILLIAM GEORGE BROWN, B. S., Ph. D.,
Professor of Chemistry.

CURTIS FLETCHER MARBUT, B. S., A. M.,
Professor of Geology, and in charge of the State Soil Survey.

GEORGE LEFEVRE, A. B., Ph. D.,
Professor of Zoology.

BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,
Professor of Botany.

MERRITT F. MILLER, B. S., M. S.,
Professor of Agronomy.

SIDNEY CALVERT, B. Sc., A. M.,
Professor of Organic Chemistry.

HENRY MARVIN BELDEN, A. B., Ph. D.,
Professor of English Language and Literature.

CLARENCE HENRY ECKLES, B. Agr., M. S.,
Professor of Dairy Husbandry.

ROBERT MONTGOMERY BIRD, A. B., B. S., Ph. D.,
Acting Professor of Agricultural Chemistry.

ERNEST BROWNING FORBES, B. S., B. S. A.,
Assistant Professor of Animal Husbandry.

WALTER LAFAYETTE HOWARD, B. Agr., B. S., M. S.,
Assistant Professor of Horticulture.

HERMANN SCHLUNDT, B. S., M. S., Ph. D.,
Assistant Professor of Physical Chemistry.

EDNA D. DAY, B. S., M. S., Ph. D.,
Assistant Professor in charge of Home Economics.

MURRAY SHIPLEY WILDMAN, M. A., Ph. D.,
Assistant Professor in charge of Economics.

*ROSCOE H. SHAW,
Assistant Professor of Animal Husbandry.

JOHN BLAKESLEE TIFFANY, B. S. A., D. V. M.,
Instructor in Veterinary Science.

HOMER LEROY SHANTZ, B. S., Ph. D.,
Instructor in Botany.

ARTHUR E. GRANTHAM, A. B., B. S. A.,
Instructor in Agronomy.

HARRY SELWYN WAYMAN, B. S. A.,
Instructor in Dairying.

†ERNEST HOWARD FAVOR, A. B.,
Assistant in Horticulture.

*CHARLES HENRY HECHLER, B. S. A.,
Assistant in Animal Husbandry.

BAYARD FRANKLIN FLOYD, A. B.,
Assistant in Botany.

*In the service of the United States Government.
†On leave of absence.

LEONARD HASEMAN, A. B.,
Assistant in Entomology.

WILLIAM HENRY CHANDLER, B. S., M. S.,
Assistant in Horticulture.

LUCIUS FRANKLIN CHILDERS, B. S.,
Assistant in Agronomy.

EDWIN A. TROWBRIDGE, B. S. A.,
Assistant in Animal Husbandry.

RAY CLAUDE DONEGHUE, B. S.,
Assistant in Agronomy.

BURTON R. THOMPSON, B. S.,
Assistant in Dairying.

ALBERT E. PERKINS, B. S.,
Assistant in Dairying.

*FRANKLIN GEORGE KING,
Assistant in Animal Husbandry.

CLAUD BARTON HUTCHISON,
Student Assistant in Botany.

JOB MARCUS DOUGHTY,
Herdsman.

LECTURERS.

‡D. F. LUCKY, D. V. S., State Veterinarian,
State Lecturer on Sanitary Sanitation.

*GEORGE REEDER of the U. S. W. B.,
Lecturer on Climatology.

REQUIREMENTS FOR ADMISSION.

For information in regard to the requirements for admission to the Collegiate Course in Agriculture, see pages 55-65.

No entrance examination or special preparation is required for admission to the Short Winter Courses.

FACILITIES FOR INSTRUCTION.

Buildings:

New Agricultural Building. One hundred thousand dollars have been appropriated by the present Legislature for a new Agricultural

‡In the service of the State Board of Agriculture.
*In the service of the United States Government.

Building. Work will begin on this building immediately, and the building will be ready for occupancy by September, 1908. In this building will be housed the Administrative offices of the Agricultural College and of the Experiment Station; also the State Board of Agriculture, including offices of State Veterinarian, State Food and Dairy Commissioner, and State Highway Engineer, the State Soil Survey Laboratories as well as those of Agronomy and Animal Husbandry. The Agricultural Library and ample reading rooms will be provided for in this building for Agricultural students.

Agricultural Hall, containing offices of Dean and Director, class-rooms and offices of the Professors of Animal Husbandry and Agronomy, office of Secretary of the State Board of Agriculture, office of Division Chief of the United States Weather Bureau, and Agricultural Museum.

Horticultural Hall, a stone building 120x54 feet, two stories and a well-lighted basement with plant house and insectary each 16x50 feet, contains class-rooms, laboratories, offices and preparation rooms for Horticulture, Botany and Entomology.

Dairy Hall, a stone building 45x150 feet, two stories with cheese curing room in basement, contains, large rooms for creamery manufactures, cheese-making room, dairy work, milk-testing laboratory, offices, class-rooms, etc.

Numerous Barns, including a large cattle barn, a cattle-feeding shed 300x30 feet, a sheep barn, dairy barn, implement shed, and smaller structures.

Farm Machine Building, a commodious building of stone for laboratories of farm implements and machinery.

Shops, containing work rooms for carpentering, blacksmithing, and wood and iron turning. The mechanical Shops are excellent.

Instruction is also given to Agricultural students in the buildings for *Chemistry*, *Geology*, *Zoology*, *Physics* and *Academic Hall*.

Laboratories:

Live Stock Laboratory, containing rooms for the Department of Veterinary Science, breeding laboratory, and Stock Judging Pavilion.

Laboratories for Botany. General laboratories for physiological and structural Botany, and special laboratories and culture rooms for phases of the physiological and mycological work, are located in Horticultural Hall. The laboratories are equipped with compound dissecting microscopes, microtomes, steam and steam-pressure sterilizers, incubators, balances and necessary glassware; an

herbarium of Missouri plants and general collections from all parts of the country. The Forty-third General Assembly has appropriated funds for the erection and equipment of laboratories for practical and experimental work in plant physiology and pathology, which will give facilities enjoyed by very few institutions in the country.

Laboratories for Entomology. The laboratories are located in the new Horticultural Hall, and have in connection a new insectary. The laboratories are supplied with microscopes, dissecting instruments, microtomes, breeding cages, aquaria, spraying machines, insecticides and re-agents. The museum contains collections of the more important injurious, and beneficial insects, arranged to illustrate their habits of work and life history. There are several thousand species of adult insects from all orders correctly classified and labeled. Twelve current periodicals on Entomology are regularly received.

Laboratories for Horticulture. The laboratory facilities of the Horticultural Department comprise the following:

The experimental grounds, comprising about 1,000 varieties of fruits and a good collection of ornamental shrubs and trees, furnish excellent facilities for field laboratory work, such as methods of planting, pruning, cultivation, etc.

The department has about 3,000 square feet of forcing house space under glass, which gives opportunity for work in plant propagation and forcing house methods.

In the basement of the Horticultural building are commodious rooms for the winter storage of dormant trees, cuttings, bulbs, stocks, scions, etc., and for performing such work as grafting, budding, making cuttings and general winter nursery work.

Farm Machine Laboratory. A laboratory well equipped for the study of modern farm implements and machinery.

Other Laboratories. There are well-equipped laboratories in Agronomy, Agricultural Chemistry, Veterinary Science, Dairying, Geology, Zoology and Physics.

Libraries:

The library for Agriculture and allied subjects has been carefully selected and it is believed to be one of the best collections of agricultural books west of the Mississippi river.

Farm and Live Stock:

A farm comprising 615 acres is used chiefly for instruction and for agricultural experiments, the experiments including tests of field crops, feeding experiments with cattle, hogs and sheep, breed-

ing experiments and investigations in Horticulture, Entomology, Botany, etc. These experiments are of the greatest possible value to students in the regular courses.

Live Stock. The College maintains herds of cattle, swine and specimen flocks of different breeds of sheep. We now have specimens of the Shorthorn, Hereford, Aberdeen Angus, Ayrshire, Jersey and Holstein breeds of cattle. In addition to these, one hundred feeding cattle are kept continuously on the farm. Duroc Jersey, Berkshire, Tamworth, and Poland China swine are available for instruction.

Practical Excursions:

Visits to successful farms and breeding establishments are made under the guidance of an instructor for the study of special phases of Agriculture. The principles taught in the class-room are thus observed in their application to agricultural operations on well-managed farms.

Dairy Husbandry:

The facilities for teaching Dairying include a well-equipped creamery room 40x51 feet, arranged for ten power separators and churns; a cheese-room 40x42 feet; a farm dairy room 22x40 feet; rooms for pasteurizing, refrigerating and cold storage; milk testing and research laboratories; a library and lecture room. A new laboratory for Dairy Bacteriology has been recently equipped. The dairy manufactures 300 to 500 pounds of butter each week throughout the year.

I. SHORT WINTER COURSES.

(See Special Circular.)

The School of Agriculture now offers three Short Winter courses as follows: Plant Production; Animal Husbandry; Dairying.

Each of these is a special course designed to occupy the entire time of the student.

It is the aim to give the student the largest amount of thoroughly practical information about farming, stock breeding, stock judging, dairying, gardening, fruit-growing, veterinary science, carpentry, and blacksmithing, possible in twelve weeks, and, at the same time, instruct him in the elements of Chemistry, Geology, Entomology, and Botany as applied to Agriculture and Horticulture.

To suit the convenience of farmers these courses are given in

the winter. They are open to all over sixteen years of age, and no entrance examination or special preparation is required. An entrance fee of $5 and a fee of $2 for each laboratory or shop taken cover all college expenses.

Full details of all of these short courses will be given in a special circular, which will be ready for distribution in September, 1907, and will be sent free upon application to the Dean of the College.

Course in Plant Production:

This course is entirely devoted to the study of plant production, including Horticulture. It includes lectures and demonstrations on growing, cultivating, harvesting, and marketing of farm and garden crops. In addition to the above subjects, students will be required to take certain courses on Soils, special work in Botany, Agricultural Chemistry, Entomology, Land Draining, and Carpentry and Blacksmithing.

Course in Animal Husbandry:

In this course the student's time is occupied in the study of feeding, breeding, judging, and general management of farm animals. Actual examination of the animals representing the approved types gives the student a practical knowledge of the best types for the various purposes of the farm.

Course in Dairying:

This course is designed especially for those who wish to obtain a knowledge of modern dairy practice as related to the creamery and the cheese factory, and at the same time to study the scientific principles upon which this practice is based.

The facilities for teaching dairying provided by our new building and equipment are unexcelled. While special attention will be given to the manufacture of dairy products, feeding for the production of milk and study of dairy breeds and dairy types will be included. The dairy building is supplied with a complete equipment for separating and testing milk, making butter and cheese, and pasteurizing milk.

II. COLLEGIATE COURSE IN AGRICULTURE.

There is a constantly increasing demand for thoroughly well-trained men in Agriculture. Graduates of the Collegiate course are in great demand as farm managers, experiment-station workers, teachers of Agriculture, and editors of agricultural newspapers.

The sons of farmers, also, who will eventually become owners and managers of farms, will find this course especially adapted to their needs.

The impression that this course is less practical than the Short Winter courses is wholly unwarranted. The instruction in the practical subjects is more thorough than is possible in the shorter courses. The instruction given in the related sciences is essential to a clear understanding of the principles and methods of practice.

This course includes general culture subjects, and the opportunities for free electives make it possible for the student to secure a liberal education while pursuing the technical work of the course.

COURSE OF INSTRUCTION.

Department	Course	Semester I	Semester II	Hours
	FRESHMAN YEAR			
English	1. English	3	3	M. W. F., at 8.
Horticulture	1a. Plant Propagation	3	—	T. Th. S., at 8.
Chemistry	1. General Chemistry	3	3	Lecture, F., at 9; Laboratory, M. W., 9 11:30.
Botany	1a and 2b. General Botany	3	3	Lecture T., at 10:30; Laboratory, Sec. I, Th. S., 10-12:30; Sec. II, T. Th., 1:30-4.
Animal Husbandry	1a. Live Stock Judging	3	—	Lecture T., at 11:30; Laboratory, Sec. I, T. Th., 1:30-4; Sec. II, Th. S., 10-12:30.
Animal Husbandry	1b. Live Stock Judging	—	3	Lecture, T., at 11:30; Laboratory, Sec. I, M. W., 1:30-4; Sec. II, Th. S., 10-12:30.
Dairy	1b. Elements of Dairying	—	3	Lectures, M. W., at 11:30; Laboratory, Sec. I, T., 1:30-4; Sec. II, F., 10-12:30.
Agronomy	1b. Grain Crops	—	3	Lecture, S., at 8; Laboratory, Sec. I, M. W., 1:30-4; Sec. II, T. Th., 8-10:30.
	SOPHOMORE YEAR			
Agronomy	2a. Soil Physics	3	—	Lecture, T., at 8; Laboratory, Th. S., 8-10:30.
Veterinary Science	1a. Anatomy	3	—	Lecture, S., at 10:30; Laboratory, T. Th., 1:30-4.
Veterinary Science	2b. Physiology	—	3	Lecture, Laboratory, T. Th., 1:30-4.

COURSE OF INSTRUCTION.—Continued.

Department	Course	Semester I	Semester II	Hours
Zoology.....	1. General Zoology....	3	3	Lecture, F., at 11:30; Laboratory, M. W., 1:30-4.
Organic Chemistry...	11. Organic Chemistry..	3	3	Lectures, T. Th., at 4; Laboratory, Th., 1:30-4.
Horticulture.....	2b, 4b, or 7b..	—	3	M. W. F., at 8.
Elective		3	3	
	JUNIOR YEAR			
Horticulture	3a. Orcharding.... ..	3	—	M. W. F., at 8.
Agricultural Chemistry	1a. Agricultural Chemistry.	3	—	T. Th. S., at 11:30.
Animal Husbandry	3a. Animal Breeding....	3	—	M. W. F., at 9.
Veterinary Science	Veterinary Medicine ...	3	—	Lecture; Laboratory, Th. S., 1:30-4.
Animal Husbandry	2b. Principles of Feeding	—	3	T. Th. S., at 9.
Agronomy	2b. Field Crops..	—	3	Lectures, M. W., at 10:30; Laboratory, F., 1:30-4.
Elective		3	9	
	SENIOR YEAR			
Geology.....	4a. Geology of Soils....	3	—	T. Th. S., at 10:30.
Entomology.....	2a. Economic Entomology....	3	—	M. W. F., at 10:30.
Agronomy ..	3b. Soil Fertility. ..	—	3	Lecture M., at 9; Laboratory, W. F., 1:30-4.
Elective		9	12	

Required Work:

All students who are candidates for a degree must satisfactorily complete 120 hours of work. Of this work, 81 hours must consist of the subjects laid down in the foregoing schedule.

Elective Work:

Students who have finished the required course in any subject may elect work in accordance with the advice and approval of the Dean. Sufficient time is given for electives in the course, so that students in the upper classes may concentrate their energies upon a chosen line of work. It is advised in all cases that student elect not only a technical subject but also related science courses. A student who specializes in Horticulture should also do special work in Botany and Entomology, while a student who elects Animal Husbandry as a major should take certain courses in Zoology and Veterinary Science and a student who elects Agronomy should give more time to Chemistry and Physiological Botany. It is expected that those who intend to engage in college or experimental station work will elect modern languages at the beginning of the Sophomore year. The students should in all cases advise with the professors and secure the written approval of the Dean before electing courses.

Degrees:

The degree of Bachelor of Science in Agriculture is conferred upon all students who successfully complete the course.

The degree of Master of Science in Agriculture is conferred upon graduate students who have successfully completed at least one year of graduate work and submitted a satisfactory thesis.

Graduate Work:

The College of Agriculture fosters and encourages graduate work. Each technical department offers advanced courses leading to graduate degrees. The demand for thoroughly trained investigators and teachers is rapidly increasing and the graduate department aims to give the thorough training desired.

The degree of Doctor of Philosophy is given by the College of Agriculture under conditions prescribed by the Faculty and described in the Announcement of the Graduate Department.

COURSES IN DETAIL.

[Courses designated by a number with the letter a attached, thus: 4a, 6a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, 6b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Short Winter Courses are indicated by the letter w after the number.]

Agricultural Chemistry.

Acting Professor BIRD.

For Undergraduates.

1. **Agricultural Chemistry.** This course consists of a study of the chemical properties of fertilizers, soils, feed-stuffs, etc., by quantitative analytical methods, and involves instruction in the official methods of the Association of Official Agricultural Chemists. No lectures are offered, only laboratory work. *Seven and a half hours, one semester.*

For Graduates.

2. As a major subject toward the degree of Master of Science in Agriculture the following course is offered to those who have fulfilled the preliminary requirements given below and elsewhere in this catalogue:

(a) Systematic practice in selected refined methods of ultimate and proximate analysis of agricultural products, e. g., the ash of plants, soils, fertilizers, plant constituents, foods, milk and milk products, adulterants, insecticides, etc.

(b) The preparation of a series of summaries of methods of work and results of important research which have been carried out in the past or are in progress at the time, in the field of Agricultural Chemistry. The intent of this is to teach the student how to use a library and to force him to see how problems are attacked, as well as other manifest good results.

(c) The carrying out of an investigation and the preparation of a thesis based upon it.

An effort will be made to assign one or more subjects under (b) which ought to suggest problems for investigation; one of which should furnish the data for a thesis, required under (c).

The work outlined is strictly a course of Applied Chemistry. It is designed to train men to investigate the chemical-agricultural problems which confront the Experiment Stations throughout the

country. The work upon analytical methods is purely incidental to this aim. In order to begin it, the student must have completed the equivalent of the undergraduate work offered by the Department of Chemistry of this University in General Chemistry, Qualitative and Quantitative Analysis, and the course in Organic Chemistry, as well as the course in Agricultural Chemistry given above. If the undergraduate work has been suitably selected, this course can be completed in one year after graduation.

Agronomy.

Professor MILLER; Mr. GRANTHAM; Mr. CHILDERS; Mr. DONEGHUE.

(Students whose larger interests lie along the lines of Agronomy are advised to choose their electives in the departments of Botany, Chemistry, and Physics. They should consult the heads of the departments regarding desirable courses.)

1b. **Grain Judging.** A study of the characteristic of standard varieties of cereals, the judging and grading of grains and the identification of weeds. Lectures and practicums. *Three times a week.* Lecture, S., at 8; Laboratory, Sec. I, M. W., 1:30-4; Sec. II, T. Th., 8-10:30.

2a. **Soil Physics.** A study of the relations of soil to heat, air and moisture, with special reference to the application of these principles to the matters of plowing, cultivation, and the preparation of seed beds. Lectures and laboratory practice. Required: One unit in entrance Physics or Chemistry 1. *Three times a week.* Lecture, T., at 8; Laboratory, Th. S., 8-10:30.

2b. **Field Crops.** The production, care, and handling of cereals, forage crops and grasses. Systematic observations of the crops grown on the Experiment Station fields will be a feature of this course. Lectures and practicums. Required: Agronomy 1b and 2a. *Three times a week.* Lecture, M. W., at 10:30; F., 1:30-4.

3b. **Soil Fertility.** A study of the chemical composition of soils, the relation of soil fertility to crop production, the maintenance of soil fertility and the use of fertilizers. Lectures and laboratory exercises. Required: General Chemistry 1 and 2, Agricultural Chemistry 1, and Agronomy 2a. *Three times a week.* M., 9; W. F., 1:30-4.

4a. **Farm Architecture.** A study of plans of farm buildings and methods of construction, the construction of fences and farm conveniences, the laying out of farms and the arrangement of buildings and lots. Lectures and practicums. *Three times a week.* Elective

5b. **Farm Engineering.** Farm drainage, road building, farm power, farm machinery and the principles of draft as applied to farm wagons and implements. The equipment in the farm machine laboratory is for use in this course. Lectures and practicums. *Three times a week.*

6a. **Soil Investigations.** A study of special soil problems, both in soil fertility and in soil physics. Particular attention will be given to recent investigations in soils. Lectures and laboratory practice. *Three times a week.* Elective.

7b. **Special Field Crops.** A study of Experiment Station methods as applied to field crops. Special attention will be given to the matter of crop improvement by breeding and the application of these methods to practical agriculture. Lectures and practicums. *Three times a week.* Elective.

8a. **Special Grain Judging.** The judging of cereals and a study of market classification of grains. Special attention will be given to training students to be competent judges to meet the demand at local corn shows. Two practicums a week. Elective.

9b. **Soil Mapping.** This course is designed to make the student familiar with soil survey work as carried out by the experiment stations of the United States. Practice will be given in the mapping of definite areas near Columbia, attention being directed to geological, biological, and soil conditions. Lectures and field practice. Two hours. Professors MARBUT and MILLER. Elective.

10. **Seminar.** Readings and discussions of recent investigations in agronomy. Papers will be presented from time to time to furnish basis for discussion. One hour. Elective.

11w. **Soils and Fertilizers.** The origin, formation, and classification of soils; their chemical and physical properties as related to fertility; classification of soils with respect to the adaptibility to crops.

The preservation and application of farm yard manure; the relative values of different manures and fertilizers; the use and application of commercial fertilizers; the manurial value of crops and methods of using them to maintain soil fertility.

12w. **Farm Crops.** Conditions of germination and plant growth, special requirements of the different farm crops, rotation, cultivation, harvesting, and storing of crops, best varieties of corn, wheat, etc., for Missouri, some discussion of promising new crops, especially fertilizing crops—cow peas, soy bean, alfalfa, etc. The College farm and experimental grounds comprise nearly 600 acres of well improved land on which many experiments illustrating various methods of farm management are made.

Primarily for Graduates.

14. **Research Work in Agronomy.** The work of this course will be designed to suit the requirements of students who wish to do either special or graduate work in Agronomy. The Experiment Station fields, the Agronomy laboratories, the work of the Missouri and the United States Soil Survey in the State and various lines of cooperative work which are being conducted between the Missouri Experiment Station and the United States Department of Agriculture offer special advantages to the Graduate or Special student.

Animal Husbandry.

Professor MUMFORD; Dean WATERS; Assistant Professor FORBES; Mr. HECHLER; Mr. TROWBRIDGE.

1a and 1b. **Live Stock Judging.** A study of animal form and character, especial attention being given to the market classes and grades of live stock, and also to the indications of feeding quality, constitutional vigor, sexuality, capacity for the production of meat, milk, wool, work, and speed, 1a *First Semester*: Lecture, T., at 11:30; Laboratory, Sec. I, T. Th., 1:30-4; Sec. II, Th. S., 10-12:30. 1b *Second Semester*: Lecture, T., at 11:30; Laboratory, Sec. 1, M. W., 1:30-4; Sec. II, Th. S., 10-12:30. Required. Freshmen. Mr. TROWBRIDGE; Mr. HECHLER.

2b. **Principles of Feeding.** The laws of animal nutrition; an adaptation of the facts of physiological chemistry to the subject of stock feeding. T. Th. S., at 9. Required. Junior. Assistant Professor FORBES.

3a. **Animal Breeding.** A treatment of the principles and practices of stock breeding, much attention being given to such subjects as variation, heredity, selection, atavism, in-breeding, cross-breeding, grading, the process of fertilization, the evolution and significance of sex, and other kindred topics. This course is intended to give the student a working knowledge of the science and art of animal breeding. M. W. F., at 9. Required. Junior. Professor MUMFORD.

4a. **Breeds of Live Stock.** History, development and characteristics of the leading breeds of live stock; pedigrees and performances of superior individuals among horses, cattle, sheep, and swine. T. Th. S., at 10:30. Elective. Professor MUMFORD.

5b. **Beef Production.** A discussion of practical methods of beef production, including a consideration of successful practices in

feeding for market, fitting for show and general care and management of beef cattle. M. T. W. Th. F., at 10:30, during April and May. Elective. *Two hours credit.* Dean WATERS.

6b. **Sheep Production.** Best systems of sheep husbandry; rearing for mutton and wool; production of spring lambs; fattening sheep and lambs for the market; general care and management of the breeding flock. M. T. W. Th. F., at 10:30, during March. Elective. *One hour credit.* Professor MUMFORD.

7b. **Pork Production.** The feeding of hogs for market; the management of the breeding herd, and a study of foodstuffs, with reference to their adaptability to pork production. M. T. W. Th. F., at 10:30, during February. Elective. *One hour credit.* Assistant Professor FORBES.

8b. **Stock Farm Management.** Successful methods of operating farms devoted chiefly to live stock production. A study of the best systems applied to Missouri conditions. Elective. *Two hours credit.* M. W., at 9. Professor MUMFORD.

9b. **Horse Production.** Market classes of horses, their production and utility, care and management of breeding and growing horses, fitting horses for sale and show, successful practical methods of handling and training horses. *One hour.* Elective. F., at 9. Mr. TROWBRIDGE.

10a. **Advanced Live Stock Judging.** A continuation of the work of Animal Husbandry 1a, principally by the method of comparative judging. T. Th., 1:30-4. Elective. *Two hours credit.* Assistant Professor FORBES.

11b. **Experimental Feeding.** Original investigations of important problems in feeding cattle, sheep and swine. This course is intended to give experience in experimental feeding and at the same time make the student familiar with Experiment Station methods. *For graduates.* Professor MUMFORD; Assistant Professor FORBES.

12. **Seminar.** Special Investigation and study bearing on selected lines of work in Animal Husbandry, together with the preparation and presentation of papers for discussion by the class. *Once or twice a week.* Elective. Professor MUMFORD.

13w. **Stock Feeding.** The composition and digestibility of feeding stuffs; the preservation and preparation of coarse fodders; grinding, steaming and cooking food; feeding standards and the calculation of rations; feeding for meat, milk, wool, fat, growth and work. Assistant Professor FORBES.

14w. **Stock Breeding.** The principles of breeding; heredity,

variation and selection; the methods of grading, in-breeding, cross-breeding, and line breeding; special problems, such as the influence of environment on fecundity, influence of previous impregnation and the possibility of controlling the sex of offspring. Professor MUMFORD.

15w. **Live Stock Judging.** By means of the score card the students are first familiarized with the details of the conformation and quality of domestic animals. The score card judging is followed by competitive judging of sheep, swine, horses and mules. Mr. TROWBRIDGE; Mr. ———.

Note—Courses marked w are offered to students in the Short Winter Course only.

Botany.

Professor DUGGAR; Dr. SHANTZ; Mr. FLOYD; Mr. HUTCHISON.

For Undergraduates.

1a. **General Botany.** The first half of the semester is devoted to a study of cell structure and the fundamental principles of plant physiology. The student is taught to set up experiments and to keep a record of observations on plant activities. In the second half of the semester a representative series of cryptogams is studied. Lecture, T., at 10:30; Laboratory, Section I, T. Th., 1:30-4; Section II, W. F., 1:30-4; Section III, Th. S., 10-12:30. Professor DUGGAR; Dr. SHANTZ; Mr. FLOYD; Mr. HUTCHISON.

2b. **General Botany.** This course continues the study of representative groups begun in 1a, dealing with the morphology and life histories of certain gymnosperms and angiosperms, concluding with some general work in Ecology. Lecture, T., at 10:30; Laboratory, Section I, T. Th., 1:30-4; Section II, W. F., 1:30-4; Section III, Th. S., 10-12:30. Professor DUGGAR; Dr. SHANTZ; Mr. FLOYD; Mr. HUTCHISON.

3a. **Morphology and Classification of Seed-bearing Plants.** A comprehensive study of representative groups and their relationships. Lecture, W., at 9; Laboratory, T. Th., 1:30-4. Dr. SHANTZ.

4b. **Ecology.** A study of the environment and its effect upon the plant, followed by a study of plant association, invasion, succession, and geography. Lecture, W., at 9; Laboratory, T. Th., 1:30-4. Dr. SHANTZ.

5a. **Economic Plant Geography.** A study of the distribuiton of useful plants as grown or exploited with reference to environment. Lectures, *once a week*. Hours to be arranged. Professor DUGGAR.

For Undergraduates and Graduates.

6. **Mycology.** The morphology and physiology of representative groups of fungi, including the bacteria; special attention being given also to culture methods, fungous diseases, and the culture and development of fleshy fungi. (This course will not be offered in 1907-08, alternating with 7b.) Lecture, M., at 10:30; Laboratory, Th. S., 10-12:30 (or by arrangement). Professor DUGGAR.

7b. **Parasitic Fungi.** This course, dealing only with fungi-producing plant diseases, is much more restricted than course 6, and these two courses will be given in alternate years. (Offered in 1907-08). Lecture, M., at 10:30; Laboratory, Th. S., 10-12:30 (or by arrangement). Professor DUGGAR.

8a. **Embryology and Cytology.** A comparative study of the embryology of representative green plants, cytology and microtechnique. Lecture, F., at 9; Laboratory, W. F., 1:30-4. (May not be offered in 1907-08.)

9a. **Advanced Physiology.** Lectures and experimental work on absorption, nutrition, and growth, and the effects of external stimuli upon plant functions and structures. Lecture, W., at 10:30; Laboratory, T. Th., 1:30-4. Professor DUGGAR.

10a. **The Principles of Evolution, as applied to the study of plants.** *Once a week.* Lectures and seminary work.

11. **Special Problems.** A course preliminary to Graduate Research, and, in exceptional cases, special training in lines not sufficiently emphasized by general courses. Laboratory work and a bi-weekly conference for presentation of reports on work assigned. Adequate fundamental work is essential. *Three or more times a week.* Hours to be arranged. Professor DUGGAR; Dr. SHANTZ.

Primarily for Graduates.

12. **Research.** Problems for investigation may be assigned in any general lines of work for which the student may be best prepared. *Three or more times a week.* Hours to be arranged. Professor DUGGAR; Dr. SHANTZ.

13. **Seminary.** The Seminary offers to advanced students an opportunity to become familiar with current work in Botany. Reports on appropriate topics will be required, as well as reports on any research work in progress. *Once a week.* Professor DUGGAR.

Chemistry.

For courses in Chemistry required of Agricultural students, see page 118.

Dairy Husbandry.

Professor ECKLES; Assistant Professor SHAW; Mr. WAYMAN; Mr. THOMPSON.

1b. **Elements of Dairying.** This course includes two lectures and one laboratory period a week. The lectures treat of the secretion and composition of milk and the causes of variations; the Babcock test applied to milk, and other products; use of the lactometer; the various methods of cream raising, including a study of the centrifugal separators; the ripening of cream; modern methods of making and marketing butter; judging quality of butter; proper handling of milk on the farm; the relation of the factory and private dairy to the farmer. The laboratory work includes testing milk and other dairy products, separating cream and making butter. Lectures, M. W., 11:30; Laboratory, Section I, T., 1:30-4; Section II, F., 10-12:30.

2b. **Milk Production.** This course covers the field of dairying in its relation to the producer rather than the manufacturer. The selection, breeding and building up of a dairy herd are considered; the proper care under different conditions; the growing of crops with the dairy as the center of the system; the use of the silo; special problems of feeding for milk-production; marketing dairy products; production of certified milk; the use of by-products from the dairy. T. Th. S., at 8.

3a. **Dairy Bacteriology.** One hour a week will be given to lectures on the contamination of milk and its control, normal and abnormal fermentations and their relation to dairying, milk as a means of spreading disease, the relation of fermentations to butter-making and cheese-making, and the propagation and use of pure cultures and natural starters. The laboratory work will be a study of the means by which milk becomes contaminated; the isolation and study of a number of common organisms; a careful study of the acid fermentation, ropy milk, bitter milk, and other common types; estimating number of bacteria in milk; effect of certain species on butter and cheese. Lecture, F., at 1:30; Laboratory, M. W., 1:30-4. Elective.

4a. **Cheesemaking.** The lectures will cover the subject of cheese-making in general, composition and characteristics of the

common American and European cheese, with special attention to the methods of manufacturing the more common forms of hard and soft cheese. The laboratory work will include the making of the American Cheddar, Gouda, Brick and some forms of soft cheese. *One lecture a week and two laboratory periods.* Elective. T. Th., 1:30-4. Lecture hour to be arranged.

5a. **Dairy Manufactures.** Students who have had suitable preparation may take advanced laboratory work in dairy manufactures. Two laboratory periods and one lecture. Hours to be arranged.

6. **Dairy Bacteriology.** This will be laboratory investigation of certain problems of bacteriology in relation to Dairying, the object being chiefly to give training in methods of research in this line. The work will be adapted largely to the individual student. Graduate.

7. **Seminar.** Special investigation and study along selected lines of dairy research and discussion of recent work. *Once a week.* Elective for graduate or advanced students.

8. Students who have had suitable preparation may do advanced work in any line of dairy husbandry that they choose, including milk production, butter-making, cheese-making, pasteurization, milk for city supply, etc. Graduate.

English.

For courses in English required of Agricultural students, see page 127.

Entomology.

Professor STEDMAN; Mr. HASEMAN.

The instruction in Entomology is given by lectures, supplemented by laboratory and field work. The lectures cover the external and internal anatomy, transformations, life histories, habits, economy, and classification of insects; the characteristics of the orders sub-orders, and principal families. Special emphasis is placed upon those insects of economic importance, and the best methods of combating their ravages. The laboratory work embraces the study, by means of actual specimens, of the internal and external anatomy, transformations, life histories, habits, economy, breeding, identification, or determination of genera and species, and the classification of those insects found in our fauna; and also economic work and original investigation for advanced students.

The following courses are offered:

1. **General Entomology.** For students in the College of Arts and Science only. (1) Lectures. Internal and external anatomy, transformations, life histories, habits, economy, characteristics, classification, methods of destruction, mimicry, dimorphism, analysis. Th. S., at 10:30. (2) Laboratory work, collecting, preserving, breeding, methods, habits, life histories, work, external anatomy, identification, or determination of orders, families and genera, classification. T., 1:30-4.

2a. **Economic Entomology.** For Agricultural students only. Lectures and laboratory work. Anatomy, development, work, transformations, life histories, habits and ecology, with special reference to the beneficial and injurious species, methods of combating them, preparation and use of insecticides, machines for applying, determination of species. M. W. F., at 10:30.

2w. **Economic Entomology.** For students of the Short Winter course. See special circular to be issued in September, 1907.

3. **Advanced Entomology.** Lectures and laboratory work. Internal anatomy, histology, physiology, embryology, breeding, life histories, transformations, habits, ocology, economy, distribution, dimorphism, mimicry, determination of species, classification. Must be preceded by course 1 or 2a. Hours to be arranged. Elective.

4. **Graduate Work in Entomology.** Laboratory work. Monographing a group (scientific); monographing a species (scientific and economic). Must be preceded by course 3. Hours to be arranged.

All courses in Entomology are elective for students in other Departments. Agricultural students may elect course 3 in the Junior and Senior years, and course 4 in the Graduate years.

Home Economics.

Assistant Professor DAY (in charge); Miss ———.

For Undergraduates.

1. **General Home Economics.** An introductory course planned to give a general survey of the entire field of Home Economics. It includes a brief study of the evolution of the Home from primitive to modern conditions, and an elementary study of food, shelter, dress, family and home administration. T. Th., at 11:30; M. or W., 1:30-4.

2. **The House.** A study of the House from the standpoint of sanitation, economics, and art. Its location, surroundings, construc-

tion, heating, ventilation, lighting, water supply, drainage, furnishing, and care. It must be preceded by course 1, and a general course in Physics, and either accompanied or preceded by a course in Design. T. Th., at 8; F., 1:30-4.

3. **Textile and Dress.** A study of the characteristics of different fibers, fabrics, and dyes; the textile industry from the standpoint of the consumer; historic costumes; application of principles of design to dress; principles of cleaning fabrics. It must be preceded by course 1, and Freehand Drawing 2. *Two hours a week.*

4. **Foods: General Course.** A study of the composition of Foods, their nutritive and economic values, the changes involved in their preparation for the table, and dietary standards. It must be preceded by course 1, and work in Chemistry, Physics, and some Biological science. At least one of these sciences should have been studied in the University. M., at 4; T. Th., 1:30-4.

8. **Sewing.** Laboratory practice illustrating principles of sewing. It should be accompanied by course 1. *One laboratory period a week.*

9. **Dressmaking.** Laboratory practice illustrating principles of drafting and dressmaking. It should be accompanied by course 3. *One laboratory period a week.*

For Undergraduates and Graduates.

5. **Foods: Advanced Course.** A critical study of current theories and practice in food preparation and dietetics. In the second semester, special problems will be assigned. It should be preceded by courses 1 and 4. Chemistry 2 and 5a or 5b, Botany 1a, and Physiology 1 and 4b. *One class room and two laboratory periods a week.*

6. **Home Administration.** A critical study of standards of living and the means available for attaining them. In the second semester special problems will be assigned. This course aims to bring together again into one whole the subject matter of Home Economics, introduced as a whole in course 1, and studied in detail in its various phases in courses 2, 3, 4, and 5. It should be preceded by courses 1, 2, and 4, Sociology 1, and Economics 1. *Three times a week.*

For Graduates.

7. **Research.** Original investigation of unsolved problems of the Home. Open to those with sufficient preparation. This preparation includes a reading knowledge of French and German.

Horticulture.

Professor WHITTEN; Assistant Professor HOWARD; †Mr. FAVOR; Mr. CHANDLER.

1a. **Plant Propagation.** Lectures and Laboratory exercises. A consideration of the methods by which plants are propagated in nature, as well as under culture; seeds and seedage, including the preparatory treatment of refractory seeds and nursery management of seedlings; grafting, budding, making cuttings, separation, layerage and nursery practice. Discussion of methods employed in the propagation of our common fruits. T. Th. S., at 8. Assistant Professor HOWARD; Mr. CHANDLER.

2b. **Small Fruits and Vegetable Gardening.** Lectures, assigned readings and observations in field and garden. This course will consist of the study of small fruits and garden vegetables. In connection with fruits, the planting, cultivating, harvesting and marketing, as well as spraying, will be considered. With the vegetables considerable attention will be given to the subject of garden soils, i. e., what constitutes a good garden soil and how to make it; forcing and market gardening, as well as other cultural features. M., W. F., at 8. Professor WHITTEN; Assistant Professor HOWARD; Mr. CHANDLER.

3a. **Orcharding.** Lectures, required readings, with observations and demonstrations in the orchard. The propagation, transplanting, cultivation, pruning, gathering and marketing of orchard fruits, together with spraying for fungous diseases, are the principal topics discussed. M. W. F., at 8. Professor WHITTEN; Assistant Professor HOWARD; Mr. CHANDLER.

4b. **The Evolution of Cultivated Plants.** Lectures and assigned readings. A study of organic evolution as applied to the modification of plants, particularly those in cultivation. Plant breeding. T. Th. S., at 8. Professor WHITTEN.

5b. **Greenhouse Construction and Management.** Lectures and required readings. The construction, uses and management of forcing houses, hotbeds, and cold frames. Hours to be arranged. Elective. Professor WHITTEN; Assistant Professor HOWARD.

6a. **Forestry. Lectures.** In this course are considered the influence of forests on climate, soil and the flow of streams; the management of forests; some of the forest geography of the country; forest mensuration; the characteristics and uses of typical wood; the specific characters of our principal forest trees in their winter

†On leave of absence, session 1906-07.

condition; and a brief review of the principal diseases and insects affecting forests. T. Th. S., at 11:30. Elective. Assistant Professor HOWARD; Mr. CHANDLER.

7b. **Landscape Gardening.** Lectures, readings and out-of-door observation. Principles underlying the ornamentation of public and private grounds. T. Th. S., at 11:30. Professor WHITTEN; Assistant Professor HOWARD; Mr. CHANDLER.

(Three courses in Horticulture are prescribed. They may be selected from among courses 1a, 2b, 3a, 4b, and 7b.)

8. **Special Investigation.** This course is intended for graduates and advanced students. Special topics for investigation will be assigned. Hours by appointment. Elective. Professor WHITTEN; Assistant Professor HOWARD.

9w. **General Horticulture.** (The Short Winter Course in Agriculture.) The propagation, transplanting, cultivation, gathering, marketing, and general management of fruits and vegetables. Professor WHITTEN; Assistant Professor HOWARD; Mr. CHANDLER.

Meteorology.

*Mr. REEDER, of the U. S. W. B.

1b. This course is open to all students, but more especially to those in Botany, Geology, Medicine, Engineering and Agriculture. The course includes lectures presenting the following subjects: (1) The earth's atmosphere—its composition, temperature, pressure and circulation—dew, frost, clouds, rainfall, cyclones, thunderstorms and tornadoes; (2) Weather and climate. *Once a week.*

Rural Economics.

Professor POPE;† Assistant Professor WILDMAN (in charge); Mr. PUTNAM; Mr. GROMER.

2a. **Principles of Economics.** This course presents the foundations of economic theory in brief outline adapted to Seniors, or other mature students, and is intended as a prerequisite to the more technical course which follows. Section I, T. Th., at 8; Section II, T. Th., at 9.

2b. **Agricultural Economics.** A study of those principles of Economic Science which are particularly concerned with Agriculture and the business relations of the farmer. In so far as possible in the time allowed attention will be given to markets, banks,

*In the service of the United States Government.
†On leave of absence.

transportation, tariffs and such other institutions and conditions as affect this industry. Open to students who have taken course 2a or its equivalent. T. Th., at 9.

Veterinary Science.

Professor CONNAWAY; Dr. TIFFANY.

Courses 1a, 2b, and 3a, are offered to meet the special requirements of students who are preparing themselves for the work of general farming, stock-raising, feeding and breeding, and dairying. The additional Elective courses are offered to meet the demands of students who expect to become teachers and investigators, and who intend to take a Veterinary degree on completion of the Agricultural course. Such students will be given advice in regard to the selection of additional courses, in the Departments of Medicine and the College of Arts and Science, which it will be advisable to pursue.

1a. **Veterinary Anatomy.** This course consists of: (a) The comparative study of the skeletons of farm animals; (b) dissection of the horse, with a comparative study of such organs of other farm animals as show well marked variations; (c) the histology or minute structure of the various organs—by means of the microscope and prepared slides. Text: Chauveau's Comparative Anatomy. Lectures and laboratory, T. Th. S., 1:30-4. Sophomore Agriculture. Required.

2b. **Veterinary Physiology.** The special physiology of farm animals—horses, cattle, sheep, swine and poultry. This is preceded or accompanied by a study of the essential facts and principles relating to animal physiology in general. Lectures and assigned readings, supplemented by practical exercises in the laboratory, dairy, and feeding barns. Reference books: The standard text-books on Physiology, special monographs and journals. T. Th. S., 1:30-4. Sophomore Agriculture. Required.

3a. **Veterinary Medicine (minor course)** (a) Lectures and recitations on the general and specific causes of disease and methods of prevention; errors in feeding and care of animals; infection, nature of same and how spread; sanitation of stables, feeding pens and pastures; preventive inoculation; tuberculin test, state and national veterinary regulations, etc. (b) Diagnosis and treatment

of the common ailments of farm animals; including dosage, mode of administration and action of the simple drugs used in Veterinary Medicine. (c) Simple surgical operations: surgical emergencies, control of hemorrhage, dressing of wounds, opening and treating abscesses, care of the teeth, care of the feet, etc., etc., as well as castration, spaying and caponizing; correction of malpositions and removal of placenta in obstetrical cases. Text and reference books: Reynold's "Veterinary Studies," Mayo's "Care of Animals." Lectures, demonstrations and clinics, M. W. F. Hours to be arranged. Junior Agriculture. Required.

3b. **Veterinary Medicine.** Continuation of course 3a in the more advanced study of the non-infective diseases. Text and reference books: Friedberger and Frohner's Veterinary Pathology, Vol. 2, "Non-Infective Diseases," Law's Veterinary Medicine, Vols. 1-3. Special monographs and the Veterinary Journals. Lectures, recitations and clinics. *Three times a week.* Junior elective.

4. **Contagious, Infectious and Parasitic Diseases of Farm Animals.** In this course an effort is made to present as many clinical cases as possible, in order that the student may gain a practical knowledge of the clinical features as they are encountered in field experience. Experimental inoculations supplement the clinical study. Autopsies are made and the gross and microscopic lesions studied. The specific causes (bacteria and other micro-parasites and macro-parisites), where known are isolated and studied. Such ground relating to this group of diseases as has been well covered in the minor course 3a is not repeated in this course. Text and reference books: Friedberger and Froehner's Veterinary Pathology, Vol. I, "Infective Diseases;" Law's Vet. Med. Vol. 4; Ostertag and Wilcox's "Meat Inspection;" Neumann's Parasites and Parasitic Diseases; Nocard and Leclainche's "Les Maladies Microbiennes des Animaux;" Kitt's "Bakterienkunde." Special Bulletins and Veterinary Journals. Lectures, assigned reading, clinics and laboratory work. *Three times a week.*

5. **Veterinary Surgery and Obstetrics.** Continuation of minor course 3a in the more advanced study of veterinary surgery and obstetrics. Text and reference books: Williams' Principles and Practice of Veterinary Surgery, Moellers' Operative Surgery, Pfeiffer-Williams "Surgical Operations," Fleming and Dalrymple—"Obstetrics." Lectures, surgical exercises and clinics. *Three times a week.* Senior elective.

6. **Investigation.** Students who have suitable preparation will

have an opportunity to assist in the Experiment Station work. Graduate.

7w. **An Elementary Course in Veterinary Science.** This course deals principally with the hygiene of farm animals, and the treatment of simple ailments is given for the benefit of the students attending the Short Winter Course in Agriculture. Three lectures and one clinic a week for eight weeks.

Zoology.

Professor LEFEVRE; Assistant Professor CURTIS.

For Undergraduates.

1. **General Zoology.** A general survey of the field of zoological science. In the laboratory the student studies the structure, reactions, and activities of a selected series of animal forms. Although the course is primarily designed to lay the foundation of the general principles of Zoology, at the same time the student is prepared for subsequent work in Animal Husbandry, especially in Animal Breeding. Lecture, F., at 11:30; Laboratory: Section I, M. W., 1:30-4; Section II, T. Th., 1:30-4. Assistant Professor CURTIS.

With General Zoology as a foundation, the student may then elect courses in Zoology as announced in the College of Arts and Science, page 166.

For Graduates.

The graduate work in Zoology for students in the College of Agriculture is the same as in the College of Arts and Science.

III. COLLEGIATE COURSE IN HOME ECONOMICS.

There is an increasing appreciation of the fact that much that relates to the Home may be studied scientifically not only for the utilitarian value of the knowledge thus gained, but as a means to a liberal education.

The aim, in planning this course, has been to so correlate work in art, and in the physical, biological, and social sciences with studies in Home Economics as to make clear the fundamental principles and make interesting both the common place details of Home life and the abstract generalizations of science.

The opportunity for free election makes it possible for students to vary the course according to their special interests.

COURSE OF INSTRUCTION.

Department	Course	Semester I	Semester II	Hours
	FRESHMAN YEAR			
English	1 English Composition and Rhetoric.....	3	3	M. W. F. at 8
Freehand Drawing	1. Representation.....	3		T. Th. S. at 8
Chemistry or Physics*		3	3	
Botany.....		3	3	
Home Economics	1. General Home Economics	3	3	T. Th., 11:30 Laboratory, M. or W., 1:30-4
Home Economics	8. Sewing.....	1	1	
	SOPHOMORE YEAR			
Horticulture.....	1a. Plant Propagation...	3	—	
Dairy.....	1b. Elements of Dairying	—	3	Lectures, M. W., 11:30 Laboratory, Sec. I, T., 1-30-4 Sec. II, F., 10-12:30
Physiology	1. General Physiology...	3	3	Lectures, T. Th.; 10:30 Demonstrations, T. or W., 2-4

*If not studied in the high school.

COURSE OF INSTRUCTION—Continued.

Department	Course	Semester I	Semester II	Hours
Freehand Drawing	2. Design	3	3	
Home Economics	2. The House.	3	3	T. Th , at 8 Laboratory, F., 1:30-4
Elective or Chemistry†		3	3	
	JUNIOR YEAR			
Sociology	1. Elementary Sociology.	3	3	M. W. F., at 9
Economics	1. General Economics.	3	3	M. W. F., at 3
Home Economics	3. Textiles and Dress	2	2	
Home Economics	9. Dressmaking	1	1	
Home Economics	4. Foods: General Course	3	3	Lecture, M., 4 Laboratory. T. Th., 1:30-4
Elective		3	3	
	SENIOR YEAR			
Home Economics	6. Home Administration.	3	3	
Electives		12	8	

†If not studied in the Freshman year.

B. THE AGRICULTURAL EXPERIMENT STATION.

BOARD OF CONTROL.

The Curators of the University of Missouri.

ADVISORY COUNCIL.

The Missouri State Board of Agriculture.

OFFICERS OF THE STATION.

R. H. JESSE, LL. D. .....President of the University
H. J. WATERS, B. S. A. ..... Director
PAUL SCHWEITZER, Ph. D., LL. D. .....Chemist (Emeritus)
J. W. CONNAWAY, D. V. S., M. D. ..... Veterinarian
F. B. MUMFORD, B. S., M. S. .....Animal Husbandry
J. C. WHITTEN, B. S., M. S., Ph. D. .....Horticulturist
J. M. STEDMAN, B. S. ..... Entomologist
B. M. DUGGAR, M. S., A. M., Ph. D. ..... Botany
MERRITT F. MILLER, M. S. ..... Agronomy
C. H. ECKLES, B. Agr., M. S. ..... Dairy Husbandry
R. M. BIRD, A. B., A. M., Ph. D. .....
.....Acting Professor (in charge) of Agricultural Chemistry
E. B. FORBES, B. S., B. S. A. .....
.....Assistant Professor of Animal Husbandry
W. L. HOWARD, B. Agr., M. S. .....
.... Assistant Professor of Horticulture
*R. H. SHAW, B. S., ...Assistant Professor of Dairy Husbandry
*GEORGE REEDER .. Section Director Missouri Weather Service
HARRY SELWYN WAYMAN, B. S. in Agr... Instructor in Dairying
†E. H. FAVOR, A. B., ... Assistant in Horticulture
ARTHUR E. GRANTHAM, A. B. ..... Assistant in Agronomy
‡*C. H. HECHLER, B. S. A. ..... Assistant in Animal Husbandry
WILLIAM HENRY CHANDLER, B. S., M. S. .....
.... Assistant in Horticulture
EDWIN A. TROWBRIDGE, B. S. A. Assistant in Animal Husbandry
*FRANKLIN GEORGE KING .....Assistant in Animal Husbandry
BURTON R. THOMPSON, B. S. ..... Assistant in Dairying

‡ Resigned.
* In the service of the U. S. Government.
† On leave of absence.

ALBERT E. PERKINS, B. S. ..... Assistant in Dairying
J. G. BABB, A. M., LL. B. ..... Secretary
R. B. PRICE, M. S. ..... Treasurer
JOHN SCHNABEL ..... Gardener
‡J. M. DOUGHTY, B. S. A. ..... Herdsman
S. E. KENNEDY ..... Clerk

This station was established by the act of Congress of 1887, and by the acts of the General Assembly of Missouri accepting its provision. By an order of the Board of Curators of the University it was made a division of the College of Agriculture.

The special function of the Experiment Station is to conduct original research in the various branches of Agriculture. At this time investigations are in progress relating to the maintenance of soil fertility, the renovation of worn out soil, the most efficacious rotation of crops, the adaptability of new plants to Missouri's soil and climate, the most economical methods of beef and pork production; dairying and dairy feeding, animal diseases, their origin and prevention or cure; animal and plant breeding; the propagation, selection, breeding and improvement of fruits and vegetables; tests of varieties of orchard and small fruits; insect pests, fungous diseases, etc.

The Station uses such parts of the College Farm, Horticultural Grounds and the equipments of the College and University as are needed for its investigations. The results of these investigations are published in the form of Bulletins and Annual Reports, which are distributed free to all who express a desire to have them.

The Station is provided with an outfit of meteorological instruments, and daily observations are made by an officer of the United States Weather Bureau.

‡Resigned, April 1, 1907.

IV. THE DEPARTMENT OF LAW.

OFFICERS OF ADMINISTRATION AND INSTRUCTION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

JOHN DAVISON LAWSON, LL. D.,
Professor of Contract and International Law and Dean of the Faculty.

EDWARD WILCOX HINTON, LL. B.,
Professor of Pleading, Practice and Evidence.

VASCO HAROLD ROBERTS, J. U. D.,
Professor of Corporation Law and Real Property.

LELAND EMERSON BRISTOL, A. B., LL. B.,
Assistant Professor of Law.

PERCY BORDWELL, B. L., LL. B.,
Assistant Professor of Law.

ELMER B. ADAMS, LL. D., (United States Circuit Judge), St. Louis,
Non-resident Lecturer on Wills and Administration.

PAUL BAKEWELL, LL. D., St. Louis,
Non-resident Lecturer on Patents and Trade-marks.

WALTER D. COLES, LL. B., (Referee in Bankruptcy), St. Louis,
Non-resident Lecturer on Bankruptcy.

J. V. C. KARNES, A. M., LL. D., Kansas City,
Non-resident Lecturer on Agency.

ANDREW W. McALESTER, M. D., LL. D., Columbia,
Resident Lecturer on Medical Jurisprudence.

LUMAN F. PARKER, St. Louis.
Non-resident Lecturer on Public Service Corporations.

GEORGE ROBERTSON, Mexico.
Non-resident Lecturer on Municipal Corporations.

FRANK L. SCHOFIELD, A. M., (U. S. Master in Chancery), Hannibal,
Non-resident Lecturer on Federal Jurisdiction and Procedure.

SELDEN P. SPENCER, LL. B., Ph. D., (Ex-Judge Circuit Court) St. Louis,
Non-resident Lecturer on Private Corporations.

EDWARD J. WHITE, LL. B., Aurora.
Non-Resident Lecturer on Mining Law.

WILLIAM M. WILLIAMS, (Ex-Judge Supreme Court), Boonville,
Non-resident Lecturer on Constitutional Law.

THREE YEAR COURSE.

The course of instruction leading to the degree of Bachelor of Laws (LL. B.) extends through three years.

Methods of Admission:

Admission may be either by entrance examinations, certificates of graduation from Accredited Schools, or certificates of graduation from colleges and universities composing the Missouri College Union, or from other reputable colleges, universities, or normal schools. Acceptance of such certificates lies wholly within the power of the Committee on Entrance. See pages 55-65 of this catalogue.

Admission to First Year Class:

Students entering the First Year Class, after having satisfied the requirements of the College of Arts and Science as above, are not required to pass any examination in Law. A member of the First Year Class will not be permitted to register for any regular course of the Junior or Senior years except under exceptional circumstances and then only by permission of the Dean.

Admission to Advanced Standing:

To be admitted to advanced standing, in addition to complying with the requirements for admission to the First Year class, students must present satisfactory evidence that they have pursued successfully the study of the subjects for which they wish credit in an approved law school, and on examination prove themselves proficient in those subjects. Certificates from law schools approved by the Faculty, showing that the applicant has in said school accomplished with passing grades the work for which he wishes credit, may be accepted in lieu of examination. Certificates of admission to the bar will not be accepted for admission to advanced standing. No law school conferring a degree in law for less than three school years of systematic study of the Law will be considered an approved school within the meaning of the above requirement. By special vote of the Faculty, in exceptional cases, a study of law in a school other than an approved law school or in the office of an attorney may be offered for admission to advanced standing, in place of study in an approved law school. In such cases the applicant will be required to pass satisfactory examinations in the subjects for which he wishes credit. Examinations for advanced standing will not be given to persons not fulfilling the foregoing requirements.

Where study in a law office is offered for admission to advanced standing, an affidavit by the attorney under whom the study was carried on must be presented.

No one will be admitted to the Junior class who is conditioned in more than one full course or two half-year courses of the First Year. A member of the Junior Class will not be permitted to register for any regular course of the Senior Year except under exceptional circumstances and then only by permission of the Dean.

Students entering the Senior Class must do so at the beginning of the year. No one will be admitted to advanced standing beyond the Junior Year except by special vote of the Faculty. No student will be admitted to the Senior Class who is conditioned in any subject of the First Year or in more than one full course or two half-year courses of the Junior Year.

Special Students:

Persons who have read law for some time before making application for admission to the Department of Law, or who desire to carry out special lines of work and who have not had the preliminary preparation required for admission as regular students may be admitted as Special Students, for the purpose of pursuing courses for which their preparation, such as it is, fits them.

Such students must satisfy the Dean that they can pursue the work selected with profit to themselves and are required to pass satisfactory examinations in at least seventy-five per cent of the work for which they are registered as a condition of continuing in the Department.

To be admitted to the Department to pursue advanced work as Special Students, applicants will be required to pass examinations in all courses naturally preceding such work in point of time. In all such cases, however, applicant must comply with the requirements as to certificates of study prescribed for persons seeking advanced standing as regular students. Certificates from approved law schools, showing that applicants have pursued such courses and received a passing grade therein, *may* be accepted in lieu of examination.

Every applicant for admission as a Special Student must either present the three units in English required for admission as a regular student or pass examination in the same.

By vote of the Faculty, a Special Student who has been a member of the Department for at least two years, and during that time has successfully completed the work of the Junior and Senior Years

with an average grade of B, may be recommended to the Board of Curators for the degree of LL. B.

COURSES OF STUDY.

The aim of the Law School is to afford the student a thorough training in the fundamental principles of American and English Law, both substantive and remedial. In view of the fact that more than one-quarter of our students come from other States, it is the aim of the Faculty to make the work broad enough to prepare the student for practice in any State.

During the year 1907-08 the following courses will be offered in the Department of Law:

First Year.

Contracts. Four hours a week; first semester. Dean Lawson.

Criminal Law. Three hours a week; first semester. Assistant Professor BORDWELL.

Real Property I. Two hours a week, first semester; three hours a week, second semester. Professor ROBERTS.

Torts. Three hours a week; first and second semesters. Assistant Professor BRISTOL.

Bailments and Carriers. Two hours a week; second semester. Dean LAWSON.

Personal Property. Two hours a week; second semester. Dean LAWSON.

Agency. Two hours a week; second semester. Assistant Professor BORDWELL.

Equity I. Two hours a week; second semester. Assistant Professor BRISTOL.

Junior Year.

Common Law Pleading. Three hours a week; first semester. Professor HINTON.

Code Pleading. Three hours a week; second semester. Professor HINTON.

Real Property II. Three hours a week; first and second semesters. Professor ROBERTS.

Equity II. Three hours a week; first and second semesters. Assistant Professor BRISTOL.

Bills and Notes. Two hours a week; first and second semesters. Assistant Professor BORDWELL.

Sales. One hour a weeek; first semester. Dean LAWSON.

Quasi Contracts. One hour a week; first semester. Dean LAWSON.

Suretyship. Two hours a week; second semester. Assistant Professor BRISTOL.

Elective. Two hours a week; first and second semesters.

Senior Year.

Evidence. Three hours a week, first semester; two hours a week, second semester. Professor HINTON.

Constitutional Law. Two hours a week; first and second semesters. Assistant Professor BORDWELL.

Extraordinary Legal Remedies. Two hours a week; first semester. Professor ROBERTS.

Private Corporations. Two hours a week, first semester; three hours a week, second semester. Professor ROBERTS.

Practice Court. Three hours a week; first and second semesters. One hour a week credit. Professor HINTON.

Municipal Corporations. Two hours a week; second semester. Professor ROBERTS.

Partnership. Three hours a week; first semester. Assistant Professor BORDWELL.

Wills and Administration. Three hours a week; second semester. Assistant Professor BRISTOL.

Elective Courses.

Elective. Two hours a week; first and second semesters.

Criminal Procedure. One hour a week; first semester. Professor HINTON.

Domestic Relations. Two hours a week; first semester. Professor HINTON.

Insurance. One hour a week; first semester. Dean LAWSON.

Conveyancing. Two hours a week; second semester. Professor ROBERTS.

Conflicts of Laws. Two hours a week; first semester. Assistant Professor BRISTOL.

Jurisdiction of Federal Courts. One hour a week; second semester. Assistant Professor BORDWELL.

Mining Law. One hour a week; second semester. Assistant Professor BORDWELL.

The Practice Court:

The Practice Court has become in the past three years a distinctive feature of the Law Course. Its object and scope are set out in the special annual bulletin of the Department of Law.

REQUIREMENTS FOR DEGREE.

The degree of Bachelor of Laws (LL. B.) is conferred upon all students who have satisfactorily completed the prescribed work of the course. This course requires three years for its completion, and no student is allowed to graduate except after three years of actual residence unless in case of admission to advanced standing. In no case will any student be recommended for graduation with any class who has not been regularly enrolled as a member of that class for at least one college year prior to such graduation.

ADMISSION TO THE BAR.

Admission to the Bar of Missouri is vested in the Supreme Court of the State and all candidates are required to pass an examination before a Board of Law Examiners appointed by the court. The subjects upon which the examination is based are those included in the curriculum of this Law School. The Board holds an examination in Columbia in the first week in June for the special benefit of the Senior Class of the Department of Law.

Graduates of this Law School who pass the Board of Law Examiners are admitted to practice in the United States District and Circuit Courts in this state on motion.

Certificate of Attendance. Each student who has been in regular attendance in this Department, whether entitled to a degree or not, may, on application to the Faculty, receive an official certificate of attendance, stating the time of his attendance and, if desired, the degree of his attainments.

HONORS AND PRIZES.

The degree of Bachelor of Laws, *cum laude*, is conferred upon graduates who have shown special excellence in their work.

The honor of valedictorian of the graduating class is awarded to the graduate who has attained the highest grades during his course.

Rollins Scholarship. This scholarship, amounting annually to the sum of fifty dollars, is provided for in the endowment of Hon. James S. Rollins and is awarded annually by the Law Faculty to a student of the Junior Class, according to the terms of the donation as set forth in this Catalogue, page 85.

Karnes Prize. Hon. J. V. C. Karnes, of Kansas City, Missouri, has recently provided an annual prize of fifty dollars to be awarded each year by the Law Faculty to a student of the Senior or Junior

Classes who shall offer the best thesis upon some subject within the domain of Legal Ethics.

Edward Thompson Company Prize. The Edward Thompson Company, of Northport, Long Island, has for a number of years provided the Department annually with a set of its "American and English Encyclopedia of Law, second Edition." These 32 Volumes valued at $240 are awarded to the candidate for the degree of LL. B., who presents the best thesis upon a subject assigned by the Faculty.

American Law Book Company Prize. The American Law Book Company, of New York City, has provided the Department with a set up to date of its "Cyclopedia of Law and Procedure," now 24 volumes, which is awarded to that member of the Senior Class who, in the judgment of the Law Faculty, has made the best all-round progress during his Senior year. Two years of residence as a student in the Department is required of candidates for this prize.

COMBINED COURSE IN ART AND LAW.

Seniors in the College of Arts and Science may elect, as part of the requirements for graduation, courses from the first year's work in the Department of Law to an amount not exceeding twenty-two hours. Under special circumstances this privilege may be extended to Juniors with the consent of the Deans of the College of Arts and Science and the Department of Law. A combined course of this character will enable a student to obtain the degrees of A. B., and LL. B., in six years.

The following courses in the College of Arts and Science may be selected for the degree of Bachelor of Laws:

In Political Science and Public Law, course 4, Comparative Constitutional Law; course 5, Comparative Administrative Law; course 7b, The Law of Taxation; course 8a, The Government of Missouri: in History; course 18, English Constitutional History; course 19a, American Colonial Institutions.

EQUIPMENT.

The Law School has the exclusive occupancy of a building specially erected for the Department. The building is practically fireproof, and contains the usual library, lecture, and office rooms.

The Law library contains about eleven thousand volumes, conveniently housed in the Law building and open freely to all students of the Department. The General Library of the University

(55,000 volumes) and the Missouri State Historical Society Library (23,000 entries), are also open to law students.

FEES AND EXPENSES.

No tuition fee is charged in any Department or College of the University. An annual library fee of $10 is required of all students, both regular and special, admitted to the Department of Law. Appointees to Cadetships and students of the College of Arts and Science receiving instruction in the Department of Law are not exempt from this library fee. The cost of text-books varies, averaging about $30 a year. Room and board may be obtained at from $2.25 per week upwards. It is not infrequent to find students in the University whose expenses do not exceed $175 a year.

THE DEPARTMENT OF LAW—SPECIAL ANNUAL BULLETIN.

A Special Annual Bulletin of the Department of Law is issued in April of each year. This contains a detailed announcement of all courses, entrance conditions, rules and regulations of the Law Department and should be consulted by all persons wishing exact information concerning the Department. It will be mailed on request to the Dean of the Department of Law, Columbia, Missouri.

V. DEPARTMENT OF MEDICINE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ANDREW WALKER McALESTER, A. M., M. D., LL. D.,
Professor of Surgery and Dean of the Faculty.

CLARENCE MARTIN JACKSON, B. S., M. S., M. D.,
Professor of Anatomy and Histology, and Junior Dean of the Faculty.

WOODSON MOSS, M. D., LL. D.,
Professor of the Practice of Medicine and Therapeutics.

JOHN WALDO CONNAWAY, D. V. S., M. D.,
Professor of Comparative Medicine.

WILLIAM GEORGE BROWN, B. S., Ph. D.,
Professor of Chemistry.

GEORGE LEFEVRE, A. B., Ph. D.,
Professor of Zoology.

CHARLES WILSON GREENE, A. B., M. A., Ph. D.,
Professor of Physiology and Pharmacology.

WALTER McNAB MILLER, B. S., M. D.,
Professor of Pathology and Bacteriology.

GUY L. NOYES, M. D.,
Professor of Diseases of the Eye and Ear, and Superintendent of Parker Memorial Hospital.

MAX WASHINGTON MYER, A. B., M. D.,
Professor of Gynecology and Obstetrics.

SIDNEY CALVERT, B. Sc., A. M.,
Professor of Organic Chemistry.

WILLIAM JEPTHA CALVERT, A. B., M. D.,
Assistant Professor of Internal Medicine.

†———————————

Assistant Professor of Physiological Chemistry and Pharmacology.

HERMANN SCHLUNDT, M. S., Ph. D.,
Assistant Professor of Physical Chemistry.

†To be appointed.

FRANK GOSNEY NIFONG, M. D.,
Assistant Professor of Genito-Urinary Surgery, and Assistant to the Chair of Surgery.

ELEXIOUS THOMPSON BELL, B. S., M. D.,
Instructor in Anatomy.

CAROLINE McGILL, A. B., A. M.,
Instructor in Anatomy.

*GEORGE REEDER, of the U. S. W. B.,
Lecturer on Climatology.

EDNA D. DAY, B. S., M. S., Ph. D.,
Lecturer on Dietetics.

†_____ _____
Lecturer on Pediatrics.

†_____ _____
Lecturer on Nervous Diseases.

†_____ _____
Lecturer on Dermatology and Electrotherapeutics.

ERNEST EARL MORLAN, A. B., A. M.,
Assistant in Chemistry.

GEORGE WASHINGTON TANNREUTHER, A. B., A. M.,
Assistant in Zoology.

JOSEPH S. SUMMERS, A. B., A. M.,
Analyst in Physiology.

WALTER EDWARD DANDY,
Student Assistant in Anatomy.

LAKE BREWER, A. B.,
Student Assistant in Physiology.

MARION SYLVESTER DOOLEY,
Student Assistant in Physiology.

ALBERT HOWARD BAUGHER,
Student Assistant in Physiology.

OLIVER WENDELL HOLMES MITCHELL,
Student Assistant in Pathology.

SPECIAL LECTURES.

Dr. FLEMING CARRON, Detroit, Michigan,
Title: "The History of Homeopathy."

*In service of U. S. Government.
†To be appointed.

THE MEDICAL LABORATORY BUILDING.

This handsome and commodious building is splendidly equipped to meet the needs of modern laboratory instruction and research. This building brings together the lecture rooms, laboratories and offices for Anatomy, Histology, Physiology, Pathology, Bacteriology, Hygiene, Pharmacology, Physiological Chemistry and Internal Medicine.

Animal rooms, aquaria rooms, mechanics' shops, and special research rooms are provided for. A cold storage plant is devoted to the needs of anatomical and pathological preparations.

THE PARKER MEMORIAL HOSPITAL.

Clinical Staff.

ANDREW WALKER McALESTER, M. D. .....Surgeon
FRANK G. NIFONG, M. D. .....Surgeon
WOODSON MOSS, M. D. .....Physician
WILLIAM J. CALVERT, M. D. .....Physician
GUY L. NOYES, M. D. .....Ophthalmologist and Otologist
MAX W. MYER, M. D. .....Gynecologist and Obstetrician
AUGUST W. KAMPSCHMIDT, M. D. .....Anesthetist
WALTER McNAB MILLER, M. D. .....Pathologist

Officers.

GUY L. NOYES, M. D. .....Superintendent
*JOHN MAX RIGGS, M. D. .....Senior Intern
CHARLES W. SIMISON .....Intern
LUTHER S. JAMES .....Substitute Intern
JOSEPHINE M. SHIELDS
Head Nurse and Principal of Training School for Nurses
DORA BATTSON .....Assistant Head Nurse

By the gift of Wm. L. Parker, the Department of Medicine is supplied with an excellent Hospital, which has now been in operation for five years. In the words of the donor, it is "for the benefit of the Medical Department." This building is a handsome, modern structure, conveniently located on high ground at the west side of the Campus. The building is heated by steam, lighted by gas and electricity, and well ventilated. The Hospital has beds and ac-

*Resigned.

commodations for about 45 patients. It is supplied with a modern equipment in the Medical and Surgical appliances which contribute to the comfort and welfare of the patients.

The Parker Memorial Hospital is a State Hospital, owned and controlled by the University, and is open to the sick of Missouri for the treatment of accidents, of acute and subacute diseases, and of chronic curable diseases. Cases of contagious diseases are not admitted.

The primary purpose of the Hospital is to furnish clinical instruction to the students of the Department of Medicine, in order that by the observation and study of disease they may be fitted to practice medicine intelligently. The patients serve to illustrate the nature of disease, its course, and its treatment. In the use of patients in this way nothing is done to offend their sensibilities, and their interest and welfare are constantly and carefully regarded by those in charge of the Hospital.

Patients are admitted to the Hospital at any hour of the day or night. Patients living outside of Columbia should make application, preferably through some physician, sending a statement of the nature of their disease. All the patients entering the Hospital should come under the control of the Hospital Staff. The family physician will be admitted to the Hospital to consult with the Hospital Staff. All patients must pay the charges provided for in the rules, which are as follows:

Rates. The general wards, $7.00 a week; single rooms, $15.00 a week. These charges include board and ordinary nursing and medicines. Operative cases are subject to extra charge for surgical dressings, etc.

Operative cases receive special nursing for twenty-four hours after operation, or longer if deemed necessary. If further special nursing is desired by the patient, it may be had at the rate of $2.00 a day.

No fees for medical or surgical attendance are charged clinical patients. All patients must deposit at the time of admission sufficient money to cover their expenses for the time they will probably have to remain in the Hospital. Any unused balance of this deposit will be refunded at the time the patient is discharged.

Private Cases. A limited number of private cases are received. The charges are $15 a week and upwards for ordinary medicines, nursing, and board. Private cases are required to pay a fee to the physician or surgeon in attendance.

Free Beds. A limited number of free beds are thrown open to patients in the Parker Memorial Hospital.

THE BUSCH CLINICAL AMPHITHEATRE.

A clinical Amphitheatre adjoining the Hospital has been provided by the gift of Adolphus Busch, of St. Louis. It has a seating capacity of about one hundred, is supplied with accessory rooms for sterilizing, anaesthetizing, etc., and has a number of special rooms for the work in dispensary clinics.

The interior of the Amphitheatre has recently been equipped with the medical and surgical accessories of a modern clinic.

An out-patient clinic is now established in Eye, Ear, Nose, and Throat; Internal Medicine; Surgery; and Obstetrics and Gynecology. Students have the opportunity for observing and treating patients in these clinics. The classes are formed into small sections for the purpose, and work always under the responsible direction and criticism of the Instructor in charge.

THE TRAINING SCHOOL FOR NURSES.

The University maintains a Training School for Nurses in connection with the Department of Medicine. A three-year course of theoretical and practical instruction is offered and on the completion of the course the candidate is awarded a Certificate of Graduation.

Being connected with the University and having the facilities of our scientific laboratories and of the Parker Memorial Hospital gives to those in training superior advantages, and produces nurses thoroughly competent in the theory and practice of nursing in all its details.

SCHOLARSHIP.

The Rollins Scholarship in the Department of Medicine is a prize of fifty dollars, which is awarded to that member of the Junior (Third Year) class who has made the best record during the course. See page 85.

FEES AND EXPENSES.

An annual library fee of ten dollars is required of all students, both regular and special, admitted to the Department of Medicine. In addition, laboratory fees are charged which amount to about $45 in the First year, about $50 in the Second year, and about $15 in

the Third and Fourth years. Text-books and stationery cost from $25 to $50 a year. For cost of board and lodging, etc., see page 80.

REQUIREMENTS FOR ADMISSION.

The Department of Medicine is open alike to men and women.

Admission to the First Year Class:

For detailed statement see pages 55-65 of this catalogue.

Advanced Standing:

Every applicant for advanced standing is required to present credentials from an accredited college showing satisfactory completion of courses equivalent to those for which he seeks credit. Moreover, the usual entrance requirements to the First year class must be satisfied, and evidence of a good moral character must be presented to the Dean of the Department of Medicine.

Special Students:

Students may be admitted to the Department of Medicine without passing the regular examinations required for entrance, under the following conditions: (1) They must be at least 21 years of age; (2) They must show good reasons for not taking a regular course; (3) They must pass such examinations or other tests as shall demonstrate fitness to pursue profitably the subjects selected by them; (4) They will be allowed to take work in not more than two subjects, with such kindred work as the Head Professors may suggest. Such students are expected to do specially good work in the subjects which they choose. If at any period of the session the work becomes unsatisfactory in one or both of the major subjects, their connection with the University shall be severed by the Dean of the Department.

COURSE OF INSTRUCTION.

Subject	Character of Course	Semester Credits		Total Hours	
		I	II	Lecture	Laboratory or Clinics
	First Year				
Osteology	3 hrs. recitation a week	3	—	48	—
Neurology	1 lecture, 5 hrs. laboratory a week	—	3	16	80
Dissection	7½ hrs. laboratory a week	3	3	—	240
Normal Histology	1 lecture, 7½ hrs. laboratory a week	4	4	32	240
Organic Chemistry	2 lectures, 2½ hrs. laboratory a week	3	3	64	80
Embryology	1 lecture, 5 hrs. laboratory a week	—	3	16	80
Bacteriology	7½ hrs. laboratory a week	3	—	—	120
	Total	16	16	176	840
	Second Year				
Advanced Dissection	7½ hrs. laboratory a week	3	—	—	120
Topographic Anatomy	7½ hrs. laboratory a week	—	3	—	120
Physiology and Physiological Chemistry	5 lectures, 12½ hrs. laboratory a week	10	—	80	200
Pharmacology	2 lectures, 5 hrs. laboratory a week	—	4	32	80
General Pathology	3 lectures, 2½ hrs. laboratory a week	4	—	48	40
Special Pathology	4 lectures, 10 hrs. laboratory a week	—	8	64	160
Hygiene	3 lectures a week	—	3	48	—
	Total	17	18	272	720

COURSE OF INSTRUCTION—Continued.

Subject	Character of Course	Semester Credits		Total Hours	
		I	II	Lecture	Laboratory or Clinics.
	THIRD YEAR				
Practice of Medicine.	3 lectures, 6 hrs. clinics a week..	4	4	96	192
Therapeutics	2 lectures a week	2	2	64	—
Physical Diagnosis and Clinical Pathology.....	7½ hrs. laboratory a week ...	3	3	—	240
Surgery (inc. Principles of Surgery, Minor Surgery and operative Surgery on Cadaver)..	3 lectures, 6 hrs. clinics or laboratory a week.	4	4	96	192
Genito-Urinary Diseases	1 lecture a week, with additional clinics.....	1	1	32	*
Obstetrics.	3 lectures a week, with additional clinics..... ..	—	3	48	*
Nervous and Mental Diseases	1 lecture a week, with additional clinics....	1	1	36	*
Pediatrics.	1 lecture a week, with additional clinics.....	1	1	32	*
Dermatology and Electrotherapeutics..	1 lecture a week, with additional clinics..	1	1	32	*
Dietetics.....	3 hrs. lecture and laboratory demonstrations	3	—	48	—
	Total	20	20	484	624*

*Plus additional clinics variable in amount.

COURSE OF INSTRUCTION—Continued.

Subject	Character of Course	Semester Credits		Total Hours	
		I	II	Lecture	Laboratory or Clinics.
	FOURTH YEAR				
Practice of Medicine (including Clinical Microscopy)	3 lectures, 6 hrs. clinics a week	4	4	96	192
Surgery	3 lectures, 6 hrs. clinics a week	4	4	96	192
Obstetrics	3 lectures a week, with additional clinics	3	—	48	*
Gynecology	2 lectures, 3 hrs. clinics a week	3	3	64	96
Nervous Diseases	1 lecture a week, with additional clinics	1	1	32	*
Pediatrics	1 lecture a week, with additional clinics	1	1	32	*
Dermatology and Electrotherapeutics.	1 lecture a week, with additional clinics	1	1	32	*
Eye, Ear, Nose and Throat	2 lectures, 5½ hrs. clinics a week	4	4	64	176
Climatology	1 lecture a week	—	1	16	—
Medical Jurisprudence	1 lecture a week	—	1	16	—
	Total	21	20	496	656
	Total four years	74	74	1428	2840

*Plus additional clinics variable in amount.

COURSES IN MEDICINE AND IN ARTS AND SCIENCE.

It is the policy of the Department of Medicine to encourage in every way possible the gaining of a liberal education as a sound preparation for the professional study of Medicine.

Students of Medicine are strongly urged to take a general scientific course in conjunction with their work in Medicine. The student in the Department of Medicine may, by a proper choice of electives in the College of Arts and Science, do his required work in Medicine, and at the same time meet the requirements for the degree of Bachelor of Arts (see course below). This, it is true, prolongs the course to at least five years, but the greater power and broader training acquired makes a better and more successful physician. Such students are registered in both the Department of Medicine and in the College of Arts and Science, and must fill the requirements of both. Candidates for both the A. B. and M. D. degrees are recommended to elect subjects required or which lead up to subjects required in Medicine, in approximately the order suggested by the following tabulated statement. With the exception of Physical Training or Military Science, the work outlined for the First Year is identical with the college work required for admission to the regular course in Medicine.

The entrance requirements for the combined course outlined below is that specified for the College of Arts and Science, i. e., a high school course equivalent to fifteen units. A student who follows this course will, at the end of four years, have completed the requirements for the A. B. degree (provided that six hours of the electives be chosen from work "for undergraduates and graduates" in the Biological Group). He will also have completed the first two years of the course in Medicine, and will require only two years more for the M. D. degree. All students who contemplate taking this course should consult the Committee on Combined Course (at present Professor Jackson).

A COURSE LEADING TO THE DEGREES OF A. B. AND M. D. RECOMMENDED BY THE MEDICAL FACULTY.

First Year

	First Semester Hours Credit	Second Semester Hours Credit
English	3	3
General Zoology	3	3
Chemistry, Inorganic	4	4
General Physics	3	3
German	3	3
Physical Training or Military Science	1	1
	17	17

Second Year

Chemistry, Organic	3	3
History	3	3
Ancient Language	3	3
Psychology	3	3
Physical Training or Military Science	1	1
Elective	4	4
	17	17

Third Year

Osteology	3	0
Neurology	0	3
Practical Anatomy	3	3
Normal Histology	4	4
Embryology (Zoology 4b)	0	3
Bacteriology	3	0
Elective	4	4
	17	17

Fourth Year

Physiology and Physiological Chemistry	10	0
Pharmacology	0	4
Pathology, General and Special	4	8
Hygiene	0	3
Advanced Dissection	3	0
Topographic Anatomy	0	3
	17	18

FIFTH YEAR.

Same as the Third Year of Medicine in the Four Years' course.

SIXTH YEAR.

Same as the Fourth Year of Medicine in the Four Years' course.

With the consent of the Dean, Medical students may take accessory work offered in other Departments of the University.

COURSES IN DETAIL.

(Courses designated by a number with the letter a attached, thus: 4a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters.)

Anatomy and Histology.

Professor JACKSON; Dr. BELL; Miss MCGILL.

2a. Osteology. Recitations and Demonstrations. A complete disarticulated human skeleton is issued to every two students for use during this course. T. Th. S., at 8. *First Year.*

3. Normal Histology. A study of the microscopic anatomy of the body. Each student prepares, stains and mounts permanently about 100 specimens for study. Lecture, T., at 9; Laboratory, T., 10:30-12:30; Th. S., 9-12. *First Year.*

4. Dissection. The upper and lower extremities are dissected in the first semester; the thorax and abdomen in the second. Laboratory, M. W. F., 1:30-4. *First Year.*

5b. Neurology. A study of the central nervous system and sense organs. Laboratory, with one lecture a week. M. W. F., 8-10. *First Year.*

6a. Advanced Dissection. Dissection of the head and neck. Laboratory, M. W. F., 1:30-4. *Second Year.*

7b. Topographic Anatomy. A study of the topography of the various organs by means of serial sections through the entire body. Laboratory, M. W. F., 1:30-4. *Second Year.*

8b. Advanced Human Embryology. ***One lecture and two laboratory periods a week.*** Elective.

9. Advanced Anatomy. Advanced work in Anatomy or Histology, the character of which may be varied to suit individual needs. Hours to be arranged. Elective.

10. **Research.** Opportunity is afforded to a limited number of properly qualified students for original investigation in Anatomy or Histology. Hours to be arranged. Elective.

Comparative Medicine.

Professor CONNAWAY.

1a. **Comparative Medicine.** Lectures, laboratories, and clinics. This course is offered to afford students of human Medicine an opportunity to broaden their knowledge of clinical symptoms and pathological processes. Special attention is given to those diseases of lower animals that are communicable to man. Certain of the non-communicable diseases of the lower animals are considered, where the comparative study is deemed important for the better understanding of the corresponding human maladies. The students are made familiar by practical demonstrations with clinical as well as finer methods of diagnosis. They are also instructed in the measures that are employed for eradicating or controlling these sources of infection to man. The library, laboratory, and clinics of the Veterinary Department are available as aids to this instruction. *Twice a week.* Elective. Third or Fourth Year.

2. An opportunity for advanced and research work will be afforded students who have proper preparation. Elective.

Diseases of the Eye, Ear, Nose, and Throat.

Professor NOYES.

1. **Diseases of the Eye, Ear, Nose, and Throat.** Lectures and Recitations. *Twice a week.* Fourth year. Texts: Fuchs, May, Kyle, and Bacon.

2. Clinics. *Seven times a week.* Fourth Year.

Internal Medicine and Therapeutics.

Professor MOSS; Assistant Professor CALVERT.

1. **Practice of Medicine.** Lectures, recitations, and clinics. Texts: Anders, and Osler. *Three times a week.* Third Year. Professor CALVERT.

2. **Clinical Medicine.** Students in this course are required to make written reports of cases in their charge, and to write articles upon subjects assigned. These articles and reports are discussed by the class and the Professor. Monographs and essays upon im-

portant subjects, by eminent authors, are reviewed before the class, and the students are required to make digests. Clinic hours, Parker Memorial Hospital, three times a week, 2-3. Fourth Year. Professor Moss.

3. **Clinical Pathology.** Pursued during one laboratory period a week throughout the Fourth Year. Assistant Professor CALVERT.

4. **Clinical Pathology.** Pursued during two laboratory periods a week throughout the Third Year. The work consists of lectures and practical study of sputum, blood, etc., in the laboratory. Each student is provided with a microscope and necessary apparatus. General apparatus and reagents are always at hand. In this course especial attention is given to the application of laboratory methods to diagnostication and their role in the interpretation of the symptom complex of diseases. T. Th. S., 2-4. Assistant Professor CALVERT.

5. **Therapeutics.** Aside from drugs, therapeutical consideration, such as hydrotherapy, electrotherapy, dietetics, etc., receive due attention. Prescription writing becomes a matter of daily drill. W. F., at 2. Third Year. Professor Moss.

6. **Physical Diagnosis.** Pursued during one laboratory period a week throughout the Third Year. The work consists of (1) lectures on ausculation with practical work on the normal and diseased organs; (2) a study of the several diseases affecting the thoracic viscera, by lectures, demonstrations of organs and charts whenever possible, and by clinics. From time to time the class may visit some of the large State institutions for additional work. Assistant Professor CALVERT.

Elective. A limited number of students prepared to do advanced work may be assigned to special problems during the Second semester of the Third and throughout the Fourth Year. A credit may be given.

Chemistry.

11. **Organic Chemistry.** The aim of this course is to give a general survey of the principal classes of organic compounds, such as hydrocarbons, alcohols, phenols, ethers, aldehydes, acids, esters, fats, carbohydrates, etc. In so far as it is possible, the student prepares in the laboratory representatives of the various classes of compounds and studies their reactions. Lectures and Laboratory. Lectures, T. Th., 4-5; Laboratory, T., 1:30-4. Professor CALVERT.

For other courses in Chemistry which are given in the College of Arts and Science and which may be elected, see page 118.

Obstetrics and Gynecology.

Professor MYER.

1b, 2a. **Obstetrics.** Lectures and clinics. A complete set of abnormal pelves, Auzoux models of the uterus and contents of the various periods of gestation and charts are employed for demonstration. Each student is required to diagnose presentations, positions, and perform all obstetrical operations on the Schultze-Winckel manikin. The maternity ward of the Hospital offers opportunity for the observation of cases, and besides this, ample material is furnished the students in the outdoor clinic, where they are permitted to care for cases, under the supervision of the Head of the Department. *Three times a week. Second semester*, Third Year; *First semester*, Fourth Year.

3. **Gynecology.** The lectures with demonstration of museum specimens give the students a general theoretical knowledge of the subject. Bedside clinics are conducted daily. All clinical operations are witnessed by the students. *Twice a week.* Fourth Year.

Pathology, Bacteriology and Hygiene.

Professor MILLER; Dr. CARHART.*

1a. **Bacteriology, Introductory and General.** Being essentially a pure science course and intended to give the student a comprehensive view of the whole field of Bacteriology, independent of any particular professional application, special attention is given to the technique of the science. The student prepares media, separates and makes pure cultures, sterilizes, incubates, disinfects, and prepares and studies microscopic preparations. The knowledge and practice obtained in this course prepare the student for the further study of the subject as a pure science or of the practical applications of its methods in the study of domestic and municipal hygiene, in agriculture, dairying, brewing, and other industries, in household economics, sanitary engineering, and in veterinary and human medicine. Elective to students who have made the necessary preparation in chemistry, physics and biology. Lectures and laboratory. *Three times a week.* First Year. Laboratory deposit, ten dollars.

*Resigned.

2. **Pathology, General and Comparative.** The conduct of the necropsy, macroscopic, microscopic, bacteriologic, experimental writing of protocol. This work includes the study of degeneration, regeneration, inflammation, the effects of poisons, the infections, animal parasites, and tumors. In the study of infections is included the growth of the infectious organisms in pure culture, their examination and the study of their effect upon rabbits, guinea pigs, mice, and other small domestic animals. While the work centers about the post-mortem examination, the radius of operation extends into the field of experimental pathology and is rounded out by the study of preserved material derived from former necropises or obtained elsewhere. When the work of the student is not directed to the post-mortem examination or demonstration of gross material, about five microscopic sections are given daily to the student for staining, mounting, and study. These preparations have a permanent value and become the property of the student. Lectures and laboratory. *Four times a week; three lectures and one laboratory period, first semester. Eight times a week; four lectures and four laboratory periods, second semester.* Second Year. Laboratory deposit for first semester, five dollars; second semester, ten dollars.

5. **Bacteriology, Research Work.** A limited number of properly qualified students are admitted to the laboratory for work of this kind. The results of such work must be submitted in writing and be of such nature as may be approved for publication.

6. **Pathology, Research Work.** Explanation as given under course 5.

7b. **Hygiene.** Lectures with demonstrations on the following subjects: History of Hygiene; hygienic conditions of air and soil, with special reference to the influence of climate (acclimatization) upon diseases; general hygiene of cities, dwellings, schools, prisons, etc.; commercial hygiene; ways in which important diseases, such as malaria, typhoid, diphtheria, tuberculosis, pneumonia, influenza, whooping cough, small-pox, measles, scarlet fever, dysentery, cholera, bubonic plague, etc., spread, and the means of preventing these epidemics; vaccination against small-pox, hydrophobia, and other diseases; disinfection with special reference to households and schools, quarantines; organization of boards of health in different countries; value of compulsory registration, vital statistics, etc. Elective to properly qualified students. Lectures. *Three times a week.* Second Year

8. **Seminary, Journal Work, and Demonstrations.** Elective. *Once a week.* May be taken by third year, fourth year and graduate students in Medicine.

Physiology and Pharmacology.

Professor GREENE; Assistant Professor ————; Mr. SUMMERS; Miss BREWER; Mr. DOOLEY; Mr. BAUGHER.

2a. **Experimental Physiology.** The physiology and physiological chemistry of the blood, secretion, digestion, nutrition, and excretion. *Four times a week.* Lectures, T. Th., at 8; Laboratory, T. Th., 9-11:30. Assistant Professor ————; Mr. BAUGHER.

3a. **Experimental Physiology.** The physiology of muscle, circulation, respiration, nervous system, and sense organs. *Six times a week.* Lectures, M. W. F., at 8; Laboratory, M. W. F., 9-11:30. Professor GREENE; Miss BREWER; Mr. DOOLEY.

4b. **Physiological Chemistry.** The chemistry of animal tissues and fluids, and metabolism of foods. Elective. *Three times a week.* Assistant Professor ————.

5b. **Pharmacology.** This course presents the physiological action of chemicals. The laboratory tests are arranged by groups so that students may observe the results of a wide range of experiments. Texts: Cushny's Sollmann's Pharmacology; Wood's Therapeutics. *Four times a week.* Open to students who have had course 3b. Lectures, T. Th., at 8; Laboratory, T. Th., 1:30-4. Professor GREENE; Mr. SUMMERS.

6. **Advanced Physiology.** Elective. Hours to be arranged.

8. **Investigation.** Elective. Hours to be arranged.

Surgery.

Professor MCALESTER; Assistant Professor NIFONG.

1. **Surgery.** Lectures and recitations, including inflammation, ulceration, septicaemia, etc., bandaging, dislocation and fracture dressing, and minor operations. In this course, the student does much practical laboratory work under the supervision of the instructor. *Three times a week.* Third Year.

2b. **Operative Surgery.** This course includes operations on the cadaver and on the lower animals, with instruction in the details of operative preparations, dressings, etc. *Twice a week, Second Semester.* Third Year.

3. **Clinical Surgery.** Lectures on major surgery, with clinics

and practical work in the Parker Memorial Hospital. *Three times a week.* Fourth Year.

Zoology.

Professor LEFEVRE; Mr. TANNREUTHER.

4b. **Embryology of Vertebrates.** The course is designed to lay the foundation of vertebrate embryology. In the laboratory the development of the chick and pig is carefully studied from preparations of entire embryos and from sections, representing successive stages of development. These observations are used as a basis of comparison for the study of human embryology. Such questions as ovulation, menstruation, relation of the embryo to the uterus, and the mechanism of nutrition of the embryo, receive special attention. Lectures and Laboratory, M. W. F., at 10:30-12:30.

Electives. Courses in Comparative Anatomy of Vertebrates and Cytology may be elected by students in the Department of Medicine who are prepared to pursue them. See announcement of the College of Arts and Science.

Special Courses.

1b. **Medical Jurisprudence.** *Once a week.* Fourth Year. Professor MCALESTER.

6. **Dietetics.** The composition, digestibility, and nutritive value of foods as found on the market and as prepared for the table. Principles of Dietetics. Text: Hutchinson's Food and Dietetics. Lectures, demonstrations, and recitations. *Three times a week.* Assistant Professor DAY.

Nervous and Mental Diseases. Two lectures with additional clinics, *every two weeks.* An additional course of four lectures on insanity, with clinical demonstrations, will be given at the Fulton Hospital for the Insane. Third and Fourth Years. Dr. ————.

Pediatrics. Two lectures, with additional clinics, *every two weeks.* Third and Fourth Years. Dr. ————.

Dermatology (including Electrotherapeutics). Two lectures, with additional clinics, *every two weeks.* Third and Fourth Years. Dr. ————.

1b. **Climatology.** This course is given once a week during the Second semester to Fourth Year students. The course embraces a description of instruments and methods used in determining climatic conditions and changes; the origin of the atmosphere, its evolution, composition, pressure, circulation; atmospheric temperatures —insolation, radiation, absorption, transmission, conduction and re-

flection; distribution of temperatures over land and water; winds, general and local, and their influence upon climate; moisture, absolute and relative humidity, and sensible temperature; clouds and sunshine; precipitation, causes and distribution; climate and weather; climate and health; comparison of climatic conditions at well known health resorts of the world; weather records and health statistics; weather forecasting. Mr. REEDER, of the U. S. W. B.

For special announcement of the Department of Medicine, address Irvin Switzler, Registrar, Columbia, Mo.

For further information concerning the Department of Medicine, address

A. W. MCALESTER, M. D., Dean,
Columbia, Mo.

VI. DEPARTMENT OF ENGINEERING.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ARTHUR MAURICE GREENE, Jr., B. S., M. E.,
Professor of Mechanical Engineering, and Junior Dean of the School of Engineering.

EDWARD ARCHIBALD ALLEN, Litt. D.,
Professor of English Language and Literature.

WILLIAM GEORGE BROWN, B. S., Ph. D.,
Professor of Chemistry, and Director of the Laboratories.

HOWARD BURTON SHAW, A. B., B. C. E., A. M.,
Professor of Electrical Engineering.

FREDERICK PUTNAM SPALDING, C. E.,
Professor of Civil Engineering.

FREDERICK HANLEY SEARES, B. S.,
Professor of Astronomy, and Director of Laws Observatory.

LUTHER MARION DEFOE, A. B.,
Professor of Mechanics.

EARLE RAYMOND HEDRICK, A. B., A. M., Ph. D.,
Professor of Mathematics.

OSCAR MILTON STEWART, Ph. B., Ph. D.,
Professor of Physics.

SIDNEY CALVERT, B. Sc., A. M.,
Professor of Organic Chemistry.

HENRY MARVIN BELDEN, A. B., Ph. D.,
Professor of English Language and Literature.

WALTER SCOTT WILLIAMS, C. E.,
Assistant Professor of Topographic Engineering.

ABRAHAM LINCOLN HYDE, Ph. B.,
Assistant Professor of Bridge Engineering.

HERMAN SCHLUNDT, B. S., M. S., Ph. D.,
Assistant Professor of Physical Chemistry.

OLLIVER DIMON KELLOGG, A. B., A. M., Ph. D.,
Assistant Professor of Mathematics.

THOMAS JACOB RODHOUSE, B. S. in C. E.,
Assistant Professor in charge of Drawing.

ARTHUR LORD WESTCOTT, B. M. E., M. E.,
Assistant Professor of Experimental Engineering.

ALAN ESTIS FLOWERS, M. E.,
Assistant Professor of Electrical Engineering.

WILLIAM ALVAN MILLER, B. S.,
Assistant Professor of Railway Engineering.

LEWIS DARWIN AMES, A. B., A. M., Ph. D.,
Assistant Professor of Mathematics.

WILLIAM HUTCHINSON COOK,
Instructor (in charge) in Manual Training.

CHARLES ALBERT PROCTOR, A. B.,
Instructor in Physics.

HERBERT MEREDITH REESE, A. B., Ph. D.,
Instructor in Physics.

ARTHUR GRANBERRY REED, A. B., A. M.,
Instructor in English.

WILHEMUS DAVID ALLAN WESTFALL, A. B., Ph. D.,
Instructor in Mathematics.

ROBERT LACY BORGER, A. B., A. M.,
Instructor in Mathematics.

MARION SHIRLEY BOWEN,
Instructor in Shopwork.

EDWIN ALLAN FESSENDEN, B. S. in M. E., M. E.,
Instructor in Mechanical Engineering.

HOWARD DOTY CARPENTER, A. B., A. M.,
Instructor in Electrical Engineering.

CHARLES OTTO COLLETT, Dipl. Ing.,
Instructor in Electrical Engineering.

MARLOW ALEXANDER SHAW, A. B., Ph. D.,
Instructor in English.

AUSTIN HUBBARD WELCH, B. S. in M. E.,
Instructor in Mechanical Drawing.

ROY EVERETT SPENCER, A. B.,
Acting Instructor in English.

MARY SHORE WALKER, A. B., A. M.,
Assistant in Mathematics.

ERNEST EARL MORLAN, A. M.,
Assistant in Chemistry.

JAMES ROY WHARTON, B. S. in M. E., M. E.,
Assistant in Mechanical Engineering.

JAMES O'NIEL BARNWELL,
Assistant in Shopwork.

†EDWIN LEROY DRIGGS, B. S. in C. E.,
Assistant in Surveying.

WILLIAM KERLIN SEITZ, B. S., in C. E.,
Assistant in Surveying.

EARL LOCKERIDGE BRADSHER, A. B., A. M.,
Assistant in English.

HARLEY EARL HOWE, B. S.,
Assistant in Physics.

REYNOLDS FLETCHER JARVIS,
Assistant in Shopwork.

WALKER T. PEMBERTON, B. S.,
Assistant in Mathematics.

FRANK WRIGHT LEIPSNER, B. S.,
Assistant in Chemistry.

DOUGLAS WORTHINGTON SWIGGETT, A. B.,
Assistant in English.

WILLIAM WESLEY EDWARDS, B. S. in M. E.,
Assistant in Mechanical Drawing.

Requirements for Admission:

For information in regard to requirements for admission, see pages 55-65.

Tuition, Charges and Fees:

For information in regard to tuition, charges, fees, scholarships, etc., see pages 78 and 84.

Courses and Degrees:

There are five courses offered leading respectively to the degrees of Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Mechanical Engineering, Bachelor of Science in Sanitary Engineering and Bachelor of Science in Chemical Engineering.

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†Resigned.

The degree of Civil Engineer (C. E.), Electrical Engineer (E. E.), Mechanical Engineer (M. E.), and Chemical Engineer (Ch. E.), will be conferred on candidates who, after receiving the first degree from this University or one of equivalent standing, have spent in the same course one year (at least ten hours a week) in graduate work in the University, or two years in professional practice and in graduate work *in absentia*, each year the equivalent of twelve hours of University credit. The candidate must pass an examination on his graduate work and present a satisfactory thesis. The thesis subject shall be presented to the Dean on or before November 1, and the thesis shall be presented on or before May 1, of the given year. Those who with professional practice pursue graduate work *in absentia* must be regularly enrolled as graduate students, paying the usual fees.

ANNOUNCEMENT OF COURSES OF INSTRUCTION IN ENGINEERING FOR 1907-08.

Civil Engineering.

The field covered by this course is a very wide one, embracing topographical, railway, hydraulic, structural, municipal, and sanitary engineering, and it is the aim to give a broad general training which may later serve as a foundation for the development of any of the special lines of practice under the general term, Civil Engineering.

The course has, therefore, been arranged with the purpose of providing thorough training in those fundamental sciences and principles upon which the practice of the civil engineer is based, and also, in so far as practicable, of giving instruction in the special subjects which underlie the several branches.

For tabulated statement of the course in Civil Engineering, see next page

COURSE IN CIVIL ENGINEERING.

No. Course.	Subject	Semester. I	Semester. II	Hours.
	FRESHMAN YEAR.			
Math. 1a E.	Trigonometry	3		*V, T. Th. S., 9; VI, T. Th. S., 8; VII, M. W. F., 10:30; VIII, M. W. F., 2.
Math. 2a E.	Algebra	2		V, W. F., 9; VI, W. F., 8; VII, T. Th., 10:30; VIII, T. Th., 2.
Math. 1b E.	Analytical Geometry		5	V, T. W. Th. F. S., 9; VI, T. W. Th. F. S., 8; VII, M T. W. Th. F., 10:30; VIII, M. T. W. Th. F., 2.
English 1.	Composition and Rhetoric	3	3	V, M. W F., 10:30; VI, T. Th. S., 9; VII, T. Th. S., 11:30; VIII, M. W. F., 8.
Chemistry 2.	General Inorganic Chemistry	4	4	Lect. V, VI, VII, M. W., 11:30; VIII, M. W., 9; Rec. V, F., 8; VI, F., 9; Lab. V, T. Th., 1:30-3; VI, M. W., 1:30-3; VII, T. Th., 8-9:30; VIII, M. W., 10:30-12.
Drawing 2b	Descriptive Geometry		3	V, T. Th. S., 10:30-12:30; VI, T. Th. S., 10:30-12:30; VII, M. W. F., 8-10; VIII, T. Th. S., 8-10
Drawing 1a.	Mechanical Drawing	3		
Shopwork 1a	Woodwork and Forging	2		V, M. W., 1:30-4; VI, W. F., 9-11:30; VII, T. Th., 1-30-4; VIII, T. Th., 10:30-12:30.
Drawing 5a.	Topographical Drawing	1		V, M., 8-10; VI, M. 8-10; VII, W., 1:30-4; VIII, F., 10-12:30.
C. E. 1b.	Elementary Surveying		3	V, M. W. F., 1:30-4; VI, M. W. F., 9-11:30; VII, T. Th., 1:30-4, S., 9-11:30; VIII, T. Th. F., 10-12:30.

*Roman numerals refer to sections.

COURSE IN CIVIL ENGINEERING—Continued.

No. Course	Subject	Semester I	Semester II	Hours
	SOPHOMORE YEAR			
Math. 4E.....	Calculus..	5	5	IV, M. T. W. Th. F., 8; V, T. W. Th. F. S., 8; VI, T. W. Th. F. S., 11:30.
Physics 3A.....	General Physics.....	4	4	Lect. T. Th., 10:30; Rec. IV, W. F., 11:30; V, T. Th., 11-30; VI, W. F., 8.
Physics 3B.. ..	General Physics Laboratory	2	2	IV, M. 10:30-12:30, S., 8-10:30; V, Th., 1:30-4; S , 10:30-12:30; VI, T. Th., 8-10:30.
C. E. 2a.	Higher Surveying	3	....	IV, M. W. F., 1:30-4; V, M., 8-11:30; W. F., 10:30-12:30; VI, T. Th., 1:30-4; S., 8-10:30.
C. E. 4b	Railway Location.....	....	3	
Drawing 4b.....	Machine Drawing . ..	..	2	IV, T. Th., 1:30-4; V, M. F., 1:30-4; VI. M. F., 1:30-4.
Drawing 3a.....	Stereotomy..	2	....	
C. E. 6.....	Elementary Construction..	2	2	W. F., 9.
	JUNIOR YEAR			
Mech. 3.....	Mechanics of Engineering	5	5	Lect. W. F., 8; Rec. I, T. Th. S., 8; II, T. Th. S., 11:30.
C. E. 5a.....	Railway Engineering....	3	....	I, M. W., 1:30-5; F., 1:30-2:30; II, M. W., 9-12:30; F., 9; III, T. Th., 1:30-5; F., 11:30.
Astron. 5	Spherical and Practical Astronomy..... ...	2	2	I, T., 10:30; II, Th., 10:30. Observatory hours to be arranged.
M. E. 1a	Steam Engineering ...	2	....	I, T. Th. S., 11:30; II, T. Th. S., 9.
C. E. 10. ...	Framed Structures.....	3	3	I, M. W. F., 9-11:30; II, M. W. F., 1:30-4.

COURSE IN CIVIL ENGINEERING—Continued.

No. Course	Subject	Semester I	Semester II	Hours
C. E. 8b.....	Sanitary Engineering....		2	T. Th., 9.
C. E. 19b.. ...	Materials of Construction....		2	Lect. S., 10:30; Lab. I, W. or F., 1:30-4; II, T. or Th., 1:30-4.
C. E. 5b. ...	Railway Economics.		2	I, T. Th., 11:30; II, W. F., 9.
	SENIOR YEAR			
M. E. 7a	Hydraulic Motors.....	2	....	S., 8; T., 9.
M. E. 11b.. ...	Mechanical Laboratory... ...		1	I, W. or F., 8-10; II, W. or F., 10:30-12:30.
C. E. 3b.....	Geodetic Surveying..		3	Lect. S., 11:30; Field. I, T. Th., 1:30-5; II, W. F., 1:30-5.
C. E. 9a.....	Hydraulics..	2	....	W. F., 10:30.
C. E. 11a.....	Bridge Design..... ...	5	....	I, M. W. F., 8-10; T. Th., 10:30-12:30; II, M. T. W. Th. F., 1:30-4.
C. E. 12b.	Theory of Structures ...	....	3	I, T. Th. S., 9; II, T. Th. S., 8.
C. E. 13.....	Masonry Structures.....	....	3	Lect. T., 10:30; Draw. I, W. F., 1:30-4; II, T. Th., 1:30-4.
C. E. 14a .	Testing Laboratory.....	1	...	I, T. or Th., 1:30-4; II, S., 9-12:30.
C. E. 16b.....	Specifications and Contracts.	..	1	S., 10:30.
Econ. 2a.	Principles of Economics..	2	....	T. Th., 8.
C. E. 30b.... .	Thesis...	....	2	M., 8-12-30.
	Elective..	3 to 6	2 to 5	

Electrical Engineering.

This course is intended to prepare students for electrical designing, manufacturing, contracting, and for the installation and management of light and power stations; in short, it is a thorough, broad training for Electrical Engineers.

The first two years are devoted to preliminary training in English, mathematics, the sciences, and in drawing and shopwork. The technical work comes in the last two years and consists of the theory and principles of electricity and magnetism; electrical measurements; calibration of instruments; tests of all kinds; design and construction; study of special problems in the generation, transmission, distribution, and utilization of electrical energy.

Special attention is paid to alternating current phenomena.

Instruction is given by means of recitations, lectures, and laboratory work, thoroughly correlated and arranged.

The apparatus is new, from the best makers, and includes instruments for electrical measurements of precision, an electric light and power plant, numerous types and sizes of direct and alternating current generators and motors, measuring instruments, etc.

For tabulated statement of the course in Electrical Engineering, see next page.

COURSE IN ELECTRICAL ENGINEERING.

No. Course	Subject	Semester I	Semester II	Hours
	FRESHMAN YEAR.			
Math. 1a E. ...	Trigonometry	3	....	*I, M. W. F., 8; II, M. W. F., 10:30; III, M. W. F., 11:30; IV, M. W. F., 2; VIII, M. W. F., 2.
Math. 2a E....	Algebra	2	....	I, T. Th., 8; II, T. Th., 10:30; III, T. Th., 11:30; IV, T. Th., 2; VIII, T. Th., 2.
Math. 1b E.....	Analytical Geometry ...	....	5	I, M. T. W. Th, F., 8; II, M. T. W. Th. F., 10:30; III, M. T. W. Th. F., 11:30; IV, M. T. W. Th. F., 2; VIII, M. T. W. Th. F., 2.
Engl. 1	Composition and Rhetoric	3	3	I, T. Th. S., 9; II, T Th. S., 11:30; III, T. Th. S., 10:30; IV, M. W. F., 8; VIII, M. W. F., 8.
Chemistry 2. ...	General Inorganic Chemistry	4	4	Lect. 1, III, IV, VIII, M. W., 9; II, M. W., 11:30; Rec. I, IV, VIII, F., 9; II, F., 11:30; III, F., 10:30; Lab. I, T. Th , 3-4:30; II, M. W., 3-4:30; III, T. Th., 1:30-3; IV, T. Th., 8-9:30; VIII, M. W., 10:30-12.
Drawing 1a. ..	Mechanical Drawing...	3	. .	I, T. Th. S., 10:30-12:30; II, T. Th. S., 8-10; III, T. Th. S., 8-10; IV, M. W. F., 10:30-12:30; VIII, T. Th. S., 8-10.
Drawing 2b	Descriptive Geometry....	....	3	
Shopwork 1. ..	Woodwork and Forging .	3	3	I, M.W. F., 10:30-12:30; II, M. W. F., 8-10; III, M. W. F., 1:30-3:30; IV, T. Th. S., 10;30-12-30; VIII, T. Th. S., 10:30-12:30.

*Roman numerals refer to sections.

COURSE IN ELECTRICAL ENGINEERING—Continued.

No. Course	Subject	Semester I	Semester II	Hours
	SOPHOMORE YEAR.			
Math. 4E.....	Calculus.....	4	5	I, M. T. W. Th. F., 11:30; II, M. T. W. T. F., 9; III, T. W. T. F. S., 8.
Physics 3A.....	General Physics.....	4	4	Lect. T. Th., 10:30; Rec. I, W. F., 10:30; II, T. Th., 8; III, W. F., 9.
Physics 3B	General Physics Laboratory.....	2	2	I, W. F., 8-10:30; II, W. F., 10:30-12:30; III, M., 8-10:30; W., 1:30 to 5.
Shopwork 2.....	Machine Work..	2	2	I, M., 8-10:30; W., 1:30-4; II, T. Th., 1:30-4; III, M. F., 1:30-4.
C. E. 1a.	Elementary Surveying....	2	...	I, M. F., 1:30-4; II, W., 1:30-4; S., 9-11:30; III, T. Th., 1:30-4.
Drawing 4b.....	El. of Machine Drawing.	....	2	I, T. Th., 1:30-4; II, M. F., 1:30-4; III, T. Th., 1:30-4.
M. E. 1a	Steam Engineering.....	3	....	I, T. Th. S., 9; II, III,
M. E. 2b	Kinematics..	...	3	T. Th. S., 11:30.
	JUNIOR YEAR.			
Mech. 3..	Mechanics of Engineering.	5	5	Lect. W. F., 8; Rec. I, T. Th. S., 8; II, T. Th. S., 9; III, T. Th. S., 9.
Physics 4.....	Electrical Measurements..	2	2	Lect. M., 9; Lab. I, W., 1:30-4; II, M., 1:30-4; III, F., 1:30-4.
E. E. 1... ...	Electrical Machinery . .	4	4	Lect. F., 9; Rec. I, Th., 9; II, Th., 8; III, Th., 10:30; Lab. I, T. Th., 1:30-4; II, M. W., 10-12:30; III, M. W., 1:30-4.
E. E. 2	Alternating Currents...	3	3	T. Th., 11:30-12:30; Lab. I, M., 1:30-4; II, W., 1:30-4; III, F., 10-12:30.
E. E. 6..... ..	Seminary	1	1	T., 10:30.

COURSE IN ELECTRICAL ENGINEERING—Continued.

No. Course	Subject	Semester I	Semester II	Hours
	SENIOR YEAR.			
M. E. 7a	Hydraulic Motors	2	....	Lect. S., 8; Rec. I, T., 8.
M. E. 13	Mechanical Laboratory..	2	2	I, Th., 1:30-6; II, T., 1:30-6.
E. E. 3	Advanced Alternating Currents	3	3	M. W., 10:30; Lab. I, T., 1:30-4; II, Th., 1:30-4.
E. E. 4.... ...	Electrical Design.....	3	3	M. W. F., 8-10.
E. E. 5.....	Electrical Engineering....	3	3	M. W. F., 11:30.
Econ. 2a.	Principles of Economics..	2	..	T. Th., 9.
Econ. 7b.....	Industrial Organizations..	....	2	
E. E. 7b. ...	Thesis.....	....	2	

Mechanical Engineering.

This course, of four years, is intended to fit students to enter readily any of the principal divisions of Mechanical Engineering. The aim of the work is to make the student self-reliant, and to that end he is required to solve original problems in design and in the laboratory, and to arrange, set up and adjust the apparatus used in his experiments. He is trained in the underlying principles of the profession, all work being so arranged that the application of these principles to special problems, which may arise in practice, may be clearly seen. The design of engineering structures and machines and the development, application and measurement of power in its various forms are covered in the different courses. The instruction is carried on principally by the aid of text-books and laboratory work, lectures being used only to supplement the text-books. In the class-room definite problems are given for solution, which problems in most cases are taken from practice. The department is equipped with an excellent working library of technical books and

the reading room is supplied with the best Engineering magazines. The new Engineering laboratory has been equipped with steam, gas and oil engines, pumps, injectors, air compressors, fans, blowers, turbines, hoisting appliances and apparatus for testing these and standardizing instruments. This apparatus will familiarize the student with the use and care of these machines, as well as with the theoretical principles underlying their design, construction and use. In equipping the laboratory it has been the aim to select the apparatus so as to bring the student in contact with most of the modern forms and types of machines for developing and measuring power and to have him make most of the tests which a Mechanical Engineer is called upon to make as well as to develop the ability to attempt original investigations or tests. The Power Plant of the University is used at times by the students for the purpose of making tests.

The outline of the courses given below shows the division of the work and the description of the course gives the main features of each. The first two years are mainly preparatory, instruction being given in English, Mathematics, Physics, Chemistry, Drawing and Shopwork to prepare the student for the technical work of the last two years. In the last two years the work is mainly in this department, certain allied work being given by the department of Civil and Electrical Engineering.

COURSE IN MECHANICAL ENGINEERING.

No. Course.	Subject.	Semester. I	Semester. II	Hours.
	FRESHMAN YEAR.			
Math. 1a E.....	Trigonometry	3	...	I, M. W. F., 8; II, M. W. F., 10:30; III, M. W. F., 11:30; IV, M. W. F., 2; VIII, M. W. F., 2.
Math. 2a E. ...	Algebra	2	....	I, T. Th., 8; II, T. Th., 10:30; III, T. Th., 11:30; IV, T. Th., 2; VIII, T. Th., 2:00.
Math. 1b E..	Analytical Geometry...	....	5	I, M. T. W. Th. F., 8; II, M. T. W. Th. F., 10:30; III, M. T. W. Th. F., 11:30; IV, M. T. W. Th. F., 2; VIII, M. T. W. Th. F., 2.
English 1.	Composition and Rhetoric.	3	3	I, T. Th. S., 9; II, T. Th. S., 11:30; III, T. Th. S., 10:30; IV, M. W. F., 8; VIII, M. W. F., 8.
Chemistry 2. ...	General Inorganic Chem..	4	4	Lect. I, III, IV, VIII, M. W., 9; II, M. W., 11:30. Rec. I, IV, VIII, F., 9; II, F. 11:30; III, F., 10:30. Lab. I, T. Th., 3-4:30; II, M. W., 3-4:30; III, T. Th., 1:30-3; IV, T. Th., 8-9:30; VIII, M. W., 10:30-12:00.
Drawing 1a. ...	Mechanical Drawing ...	3	...	I, T. Th. S., 10:30-12:30; II, T. Th. S., 8-10; III, T. Th. S., 8-10; IV, M. W. F., 10:30 - 12:30; VIII, T. Th. S., 8-10.
Drawing 2b....	Descriptive Geometry....	....	3	
Shopwork 1.....	Woodwork and Forging..	3	3	I, M. W. F., 10-31; II, M. W. F., 8-10; III, M. W. F., 1:30-3:30; IV, T. Th. S., 10:30-12:30; VIII, T. Th. S., 10:30-12-30.

*Roman numerals refer to sections.

COURSE IN MECHANICAL ENGINEERING—Continued.

No. Course.	Subject.	Semester. I	Semester. II	Hours.
	SOPHOMORE YEAR.			
Math. 4 E.....	Calculus.....	5	5	I, M. T. W. Th. F., 11:30; II, M. T. W. Th. F., 9; III, T. W. Th. F. S., 8.
Physics 3A.....	General Physics.....	4	4	Lect. T. Th., 10:30; Rec. I, W. F., 10:30; II, T. Th., 8; III, W. F., 9.
Physics 3B.....	General Physics Laboratory..... ...	2	2	Lab. I, W. F., 8-10:30; II, W. F., 10:30-12:30; III, M., 8-10:30, W., 1:30-4.
Shopwork 2. ..	Machine Work.....	2	2	I, M., 8-10:30, W., 1:30-4; II, T. Th., 1:30-4; III, M. F., 1:30-4.
C. E. 1a.	Elementary Surveying....	2	. . .	I, M. F., 1:30-4; II, W., 1:30-4, S., 9-11:30; III, T. Th., 1:30-4.
Drawing 4b.....	El. of Machine Drawing..	...	2	I, T. Th., 1:30-4; II, M. F., 1:30-4; III, T. Th., 1:30-4:00.
M. E. 1a	Steam Engineering.. ...	3	....	I, T. Th. S., 9; II, III, T. T. Th. S., 11:30.
M. E. 2b	Kinematics..	..	3	
	JUNIOR YEAR.			
M. E. 3.....	Steam Boilers.... ..	3	1	1st Sem. M. W., 9; F., 10:30-12:30. 2nd Sem. F., 10:30-12:30.
M. E. 4b . ..	Thermodynamics.	....	3	T. Th. S., 10:30.
M. E. 11	Mechanical Laboratory .	1	1	W., 1:30-4.
M. E. 14a.....	Graphics of Machines...	2	. ..	M., 1:30-4; W., 10:30-12:30.
E. E. 1	Electrical Machinery. ..	4	3	Lect. F., 9. Rec. I, Th., 9; II, Th., 8; Lab. I, T. Th., 1:30-4; II, M. W., 10-12:30.

COURSE IN MECHANICAL ENGINEERING—Continued.

No. Course.	Subject.	Semester.		Hours.
		I	II	
C. E. 18b.. .	Mill Structures..	....	2	M. W., 9-11:30.
Mech. 8.....	Mechanics of Engineering.	5	5	Lect. W. F., 8. Rec. I, T. Th. S., 11:30.
	Electives...	to 3	to 3	
	SENIOR YEAR.			
M. E. 5a. . ..	Heat Engines..	3	...	T. Th. S., 10:30.
M. E. 6..	Steam Engine Design....	2	3	1st Sem. W. F., 10:30-12:30; 2nd Sem. M., 9-11:30, W. F., 10:30-12:30.
M. E. 7a.....	Hydraulic Motors.....	2	....	Lect. S., 8; Rec. I, T., 8; II, Th., 8.
M. E. 8b	Pumping Machinery ...	....	2	T. Th., 8.
M. E. 9..	Machine Design	1	3	1st Sem. Th., 1:30-4; 2nd Sem. T. T., 1:30-4, F. 8-10.
M. E. 12	Mechanical Laboratory...	2	1	1st Sem. M. F., 1:30-4; 2nd Sem. F., 1:30-4.
M. E. 19b....	Thesis.....	...	2	M., 9-12:30, 1:30-4.
E. E. 2...	Alternating Currents....	3	3	T. Th., 11:30; W., 1:30-4.
C. E. 16b	Contracts and Specifications	....	1	S., 10:30.
Econ. 2a.... .	Principles of Economics..	2	....	T. Th., 9.
	Elective.....	to 3	to 3	

Sanitary Engineering.

This course is arranged with the purpose of combining a study of the principles of sanitary science, with the fundamental training of the course in Civil Engineering.

The Freshman and Sophomore years are identical with those of the course in Civil Engineering (p. 253). In the two later years, the work in structural and railway engineering is reduced and more attention is given to Sanitary Engineering. Thorough courses are arranged in those sciences which immediately underlie this particular branch, Bacteriology, Chemistry and Hygiene, and special instruction is given in building and municipal sanitation, sewage disposal and water purification.

No. Course	Subject	Semester I	Semester II	Hours
	JUNIOR YEAR.			
Mechanics 3....	Mechanics of Engineering.	5	5	M. T. W. Th. F., 8.
Chemistry 12 ...	Technical Chemistry ..	3	3	
C. E. 10.....	Framed Structures	3	3	M. W. F., 1:30-4.
M. E. 1a	Steam Engineering.....	3	...	T. Th. S., 9.
C. E. 19b.....	Materials of Construction.	....	2	Lect. S., 10:30; Lab. T., 1;30.4.
C. E. 8b. ..	Sanitary Engineering	...	2	T. Th., 9.
Hygiene 7a. ..	Hygiene	3	...	
	SENIOR YEAR.			
M. E. 7a. ..	Hydraulic Motors	2	..	S., 8, and T., 9.
M. E. 8b	Pumping Machinery	....	2	T. Th., 8.
M. E. 11b	Mechanical Laboratory..	....	1	W., 8-10:30.
Bact. 2b.....	General Bacteriology	...	3	
Geology 1	General Geology... ..	3	3	
Econ. 2a.. .. .	Principles of Economics..	2	....	T. Th., 8.
C. E. 11a	Bridge Design..... .	5	....	M. W. F., 8-10; T. Th. 10:30-12:30.
C. E. 9a.	Hydraulics.....	2	....	T. Th., 9.
C. E. 16b	Specifications and Contracts	...	1	S., 10:30.
C. E. 13b	Masonry Structures. .	..	3	W. F., 1:30-4; T., 10:30.
C. E. 7a.....	Municipal Engineering...	2	....	T. Th., 11:30.
C. E. 14a.....	Testing Laboratory.....	1	...	S., 9-11:30.
C. E. 30b	Thesis.	....	2	

Chemical Engineering.

In view of the development of the application of Chemistry on a large scale in manufacturing, this course is offered to furnish training in Engineering, together with specialization in Chemistry. It is proposed to extend the course making it more general on the Engineering side or to offer several parallel courses, as the demands require.

No. Course	Subject	Semester I	Semester II	Hours
	FRESHMAN YEAR.			
Math. 1a.....	Trigonometry.....	3	....	M. W. F., 11:30.
Math. 1b E...	Anal. Geometry.	..	5	M. T. W. Th. F., 11:30.
English 1.....	Composition and Rhetoric	3	3	M. W. F., 10:30.
Chemistry 2	Gen. Inorganic Chemistry	4	4	Lect. M. W., 9; Rec. E., 9; Lab. T. Th., 1:30-3.
Chemistry 5b..	Qualitative Analysis.....	...	3	
Drawing 1a.....	Mechanical Drawing....	3	..	T. Th. S., 10:30-12:30.
Drawing 2b.....	Descriptive Geometry....	....	3	
M. E. 1a ...	Steam Engineering.....	3	....	T. Th. S., 9.
	SOPHOMORE YEAR.			
Physics 3a.....	General Physics..	4	4	Lect. T. Th., 10:30; Rec. I, W. F., 10:30; II, T. Th., 8.
Physics 3b	General Physics..	2	2	Lab. I, W. F., 8-10:30; II, W. F., 10:30-12:30.
Math. 4E	Calculus.....	5	5	I, M. T. W. Th. F., 11:30; II, M. T. W. Th. F., 9.
Chemistry 4	Organic Chemistry.. ...	3	3	
Chemistry 6a...	Quantitative Analysis...	2	....	
M. E. 2b ...	Kinematics..	....	3	I, T. Th. S., 9; II, T. Th. S., 11:30.
	JUNIOR YEAR.			
Mech. 3.	Mechanics of Engineering	5	5	Lect. W. F., 8; Rec. I, T. Th. S., 8; II, T. Th. S., 9; III, T. Th. S., 11:30.
Chemistry 10....	Physical Chemistry.. ...	3	3	
M. E. 4b	Thermodynamics	..	3	T. Th. S., 10:30.
E. E. 1.....	Electrical Machinery...	4	4	Lect. F. 9; Rec. I, Th. 9; II, Th., 8; III, Th., 10:30; Lab. I, T. Th., 1:30-4; II, M. W.. 10:30-12:30; III, M. W., 1:30-4.
Drawing 4a.	El. of Machine Drawing.	2	...	I, M. F , 1:30-4; II, M. F., 1:30-4; III, T. Th., 1:30-4.

COURSE IN CHEMICAL ENGINEERING—Continued.

No. Course	Subject	Semester I	Semester II	Hours
	SENIOR YEAR.			
Chemistry	Technical Chemistry...	3	3	
Physics 4.....	Electrical Measurements..	2	2	Lect. M., 9; Lab. I, W., 1:30-4; II, M., 1:30-4.
M. E. 9.....	Machine Design..... .	2	2	T. Th., 1:30-4.
M. E. 5a	Heat Engines..... ...	3	....	T. Th. S., 10:30.
	Elective to be chosen from Chemistry, E., E. M. E., and Geology..	5	6	
	Thesis.	..	2	

Hydraulic Engineering.

This course is identical during the first two years with the course in Civil Engineering and leads to the same degree. During the Junior and Senior Years it differs from the course in Civil Engineering in requiring less railway and structural work and devoting more attention to Hydraulic and Irrigation Engineering.

No. Course	Subject	Semester I	Semester II	Hours
	JUNIOR YEAR.			
Mechanics 3 ..	Mechanics of Engineering	5	5	Lect. W. F., 8; Rec. T. Th. S., 11:30.
Geology 1 ...	General Geology	3	3	
Astronomy 5 ...	Spher. and Prac. Astronomy.....	2	2	Lect. T., 10:30. Observatory hours to be arranged.
M. E. 1a	Steam Engineering.....	3	....	T. Th. S., 9.
C. E. 10.	Framed Structures.	3	3	M. W. F., 1:30-4.
C. E. 8b.....	Sanitary Engineering....	....	2	T. Th., 9.
C. E. 19b	Materials of Construction.		2	Lect. S., 10:30; Lab. T., 1:30.
	SENIOR YEAR.			
M. E. 7a	Hydraulic Motors	2	...	Lect. S., 8; Rec. T., 9.
M. E. 8b	Pumping Machinery....	....	2	T. Th., 8.
M. E. 11b.....	Mechanical Laboratory ..	..	1	W., 8-10:30.
C. E. 16b.....	Specifications and Contracts	..	1	S., 10:30.
C. E. 13.	Masonry Structures.....	..	3	W. F., 1:30-4; T., 10:30.
C. E. 11a.....	Bridge Design.....	5	...	M. W. F., 8-10; T. Th., 10:30-12:30.
C. E. 3b. . ..	Geodetic Surveying. ...	....	3	T. Th., 1:30-5; S., 11:30.
C. E. 14a.....	Testing Laboratory.....	1	.	S., 8-10:30.
C. E. 9a.	Hydraulics.	2	..	T. Th., 9.
C. E. 15.	Hydraulic Engineering...	2	2	T. Th., 10:30.
Econ. 2a.....	Principles of Economics .	2	....	T. Th., 8.
C. E. 30b ...	Thesis.....	...	2	
	Elective	1 to 4	1 to 4	

ENGINEERING COURSES IN DETAIL.

(Courses designated by a number with the letter a attached, thus: 4a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Capital letters attached to a course have no reference to semester or session.)

Civil Engineering.

Professor SPALDING; Assistant Professor WILLIAMS; Assistant Professor HYDE; Assistant Professor MILLER; Mr. SEITZ; Mr. ———.

1a. **Elementary Surveying.** Use and adjustment of ordinary surveying instruments. Methods employed in land and topographical surveying.

Course for Sophomores in Electrical and Mechanical Engineering, I, M. F.,1:30-4; II, W., 1:30-4, S., 9-11:30; III, T. Th., 1:30-4. Assistant Professor WILLIAMS; MR. SEITZ.

1b. **Elementary Surveying.** Course for Freshmen in Civil Engineering. V, M. W. F., 1:30-4; VI, M. W. F., 9-11:30, VII, T, Th., 1:30-4, S., 9-11:30; VIII, T. Th. F., 10-12:30. Assistant Professor WILLIAMS; MR. SEITZ.

2a. **Higher Surveying.** City, topographical, mining, and hydrographic surveying. M. W. F., 1:30-4, M., 8-11:30, W. F., 10:30-12:30; T. Th., 1:30-4, S., 9-11:30. Assistant Professor WILLIAMS; Mr. SEITZ.

3b. **Geodetic Surveying.** Elements of Geodesy with practice in use of precise instruments and reduction of triangulation. Precise level work. Determinations of azimuth, I, T. Th., 1:30-4, S., 11:30; II, W. F., 1:30-4, S., 11:30. Assistant Professor WILLIAMS.

4b. **Railway Surveying.** Theory and practice of railroad surveying, IV, M. W. F., 1:30-4; V, M., 8-11:30, W. F., 10:30-12:30; VI, T. Th., 1:30-4; S., 9-11:30. Assistant Professor MILLER; Mr. SEITZ.

5a. **Railway Engineering.** Complete estimate for railway line; track construction; railway structures, railway maintenance. I, M. W., 1:30-5, F., 1:30-2:30; II, M. W., 9-12:30, F. 9-10; III, T. Th., 1:30-4, F., 10:30. Assistant Professor MILLER.

5b. **Railway Economics.** The Economics of Railway Construction. I, T. Th., at 11:30; II, W. F., at 9. Assistant Professor MILLER.

6. **Elementary Construction.** Material and methods employed

in engineering construction; masonry construction; roads and pavements; sewerage; hydraulic cement. W. F., at 9. Prof. SPALDING.

7a. **Municipal Engineering.** General Sanitation, Street Pavements, Sewage Disposal, Water Purification. T. Th., 10:30. Professor SPALDING.

8b. **Sanitary Engineering.** Water Supply and Sewerage Disposal. T. Th., 9. Professor SPALDING.

9a. **Hydraulics.** Problems in hydraulics; conduits; pipe lines; water towers and stand pipes; dams and gates; measuring devices, etc. W. F., 10:30. Professor SPALDING.

10. **Framed Structures.** Analysis of simple trusses. Graphic statics. Design for small roof truss. I, M. W. F., 9-11:30; II, M. W. F., 1:30-4. Mr. ————.

11a. **Bridge Design.** Design for plate girder bridge and steel railway bridge of short span, with working drawings and estimates. I, M. W. F., 8-10; T. Th., 10:30-12:30; II, M. T. W. Th. F., 1:30-4. Assistant Professor HYDE.

12b **Theory of Structures.** Swing bridges, arches, suspensions and cntilever bridges, deflection of trusses. I, T. Th. S., 9; II, T. Th. S., 8. Assistant Professor HYDE.

13b. **Masonry Structures.** Theory of Masonry Structures; design and estimate for masonry arch; theory and design of reinforced concrete structures. Lecture, T., 10:30. Drawing, I, W. F., 1:30-4; II, T. Th., 1:30-4. Professor SPALDING.

14a. **Testing Laboratory.** Experimental investigations of the properties of materials of construction. T., 1:30-4; Th., 1:30-4; S., 9-12:30. Assistant Professor HYDE.

15. **Hydraulic Engineering.** (a) Institutions and practice of irrigation; a discussion of special problems arising in irrigation work. *First Semester*, Th. S., at 9. (b) Rivers, canals, harbors, docks, etc. *Second Semester*, W. F., at 10:30. Professor SPALDING.

16b. **Specifications and Contracts.** S., at 10:30. Professor SPALDING.

17a. **Railway Maintenance.** Maintenance of track; signals; organizations of engineering department; accounting. T. Th., at 10:30. Assistant Professor MILLER.

18a. **Mill Structures.** Graphical analysis of framed structures; designs for simple roof truss, plate girder, and building details. M. W., 9-11:30. Assistant Professor HYDE.

19b. **Materials of Construction.** Properties of the more common materials used in engineering construction, with description of

process of manufacture and methods of testing and inspection. Tests for strength and elasticity of wood, iron, and steel in tension, compression, torsion and flexure; standard tests for cement and for paving brick. Lect. S., at 10:30; Lab., I, T. or Th., 1:30-4; II, W. or F., 1:30-4. Assistant Professor HYDE; Mr. ————.

20. **Highway Engineering.** Management and improvement of country roads; earth roads; gravel and macadam roads; testing of road materials. Materials and methods employed in the construction of city pavements. W. F., at 11:30. Professor SPALDING.

30b. **Thesis.** An independent investigation or design with complete report or discussion of results.

For Graduates.

31. **Railway Engineering.** Special advanced courses in construction, maintenance and management. Hours to be arranged. Assistant Professor MILLER.

32. **Bridge Engineering.** Problems in theory and design of framed structures. Hours to be arranged. Assistant Professor HYDE.

33. **Sanitary Engineering.** Investigations and special problems in Sanitary Science. Hours to be arranged. Professor SPALDING.

34. **Hydraulic Engineering.** Problems in hydraulics, irrigation, river and harbor improvements. Hydraulic constructions. Hours to be arranged. Professor SPALDING.

35. **Concrete Structures.** Theory of reinforced concrete. Special laboratory investigations. Hours to be arranged. Professor Spalding and Assistant Professor HYDE.

36. **Geodesy and Precise Surveying.** Hours to be arranged. Assistant Professor WILLIAMS.

Electrical Engineering.

Professor SHAW; Assistant Professor FLOWERS; Mr. CARPENTER; Mr. COLLETT.

1. **Electrical Machinery.** Theory, construction, and operation of continuous current generators, motors, measuring instruments and accessories. Laboratory: characteristics, efficiencies, heating tests, diseases and remedies. Lecture: F., at 9. Recitations: I, Th., at 9; II, Th., at 8; III, M., at 8. Laboratory: I, T. Th., 1:30-4; II, M. W., 10-12:30; III, W., 1:30-4. Professor SHAW; Mr. COLLETT.

2. **Alternating Currents.** Alternating current phenomena. Theory of current flow. Single and multiphase generators, motors, transformers, and instruments. T. Th., at 11:30. Laboratory: I, M., 1:30-4; II, W., 1:30-4; III, F., 10-12:30. Assistant Professor FLOWERS; Mr. CARPENTER.

3. **Advanced Alternating Currents.** A continuation of course 2 with laboratory tests as to operation, regulation, efficiency, etc. M. W., at 10.30. Laboratory: I. T., 1:30-4; II, Th. 1:30-4. Assistant Professor FLOWERS; Mr. CARPENTER.

4. **Electrical Design.** Critical study of electrical apparatus and design of rheostats, transformers, generators, motors, and switchboards. M. W. F., 8-10. Assistant Professor FLOWERS.

5. **Electrical Engineering.** The generation, transmission, distribution and utilization of electrical energy. Study of lighting, power, and transmission systems, including street railways, with regard to estimates and specifications, selection and arrangement of machinery, installation, testing, operation, and management. M. W. F., at 11:30. Professor SHAW.

6. **Seminary.** Reports on current technical literature and topical discussions. Student meetings of the American Institute of Electrical Engineers are held regularly, and work for the same will constitute part of the course. Juniors, T., at 10:30. Professor SHAW; Mr. CARPENTER.

7b. **Thesis.** Original investigations, and presentation of results in the form of a final thesis. Hours to be arranged.

Primarily for Graduates.

8. **Design.** Special problems. Thorough study and design of a single piece of apparatus, such as an induction motor, direct current generator, or rotary. Hours to be arranged. Assistant Professor FLOWERS.

9. **Telephony and Telegraphy.** Apparatus and systems. Lines: their properties, with special reference to effects of inductance and capacity. Wireless telegraphy. Hours to be arranged. Professor SHAW.

10. **Long Distance Transmission.** A thorough study of details. Hours to be arranged. Professor SHAW.

11. **Electric Railway Engineering.** Street, interurban and high speed electric railroading. Electric railway economics. Hours to be arranged. Assistant Professor FLOWERS.

12. **Storage Battery Engineering.** Hours to be arranged. Professor SHAW.

13. **Electrical Engineering Economics.** Hours to be arranged. Professor SHAW.

14. **Research.** Work and hours to be arranged to suit individuals. Professor SHAW; Assistant Professor FLOWERS.

Mechanical Engineering.

Professor GREENE; Assistant Professor WESTCOTT; Mr. FESSENDEN; Mr. WHARTON.

1a. **Steam Engineering.** Fuels, boilers, engines and accessories. An elementary descriptive course intended to give the student the names, purposes, construction and operation of the various parts of the apparatus found in a steam power plant. T. Th. S., at 9; T. Th. S., 11:30. Assistant Professor WESTCOTT; Mr. FESSENDEN; Mr. WHARTON.

2b. **Kinematics.** Elementary mechanisms; pulleys, belts, link work, gearing cams. T. Th. S., at 9; T. Th. S., at 11:30. Mr. FESSENDEN; Mr. WHARTON.

3. **Steam Boilers.** Value of fuels, determination of the sizes of grate, heating surface, stays, chimney, for a given boiler. Types of boilers for various purposes, methods of testing boilers. Boiler room accessories. Design of a boiler house. Each student is required to make a working drawing of a boiler designed by him. This course must be preceded by or taken co-ordinately with Mech. 3. *First Semester*, M. W., at 9; F., 10:30-12:30; *Second Semester*, F., 10:30-12:30. MR. FESSENDEN.

4b. **Thermodynamics.** Mechanical theory of heat. Cycles and their analyses. T. Th. S., at 10:30. Professor GREENE.

5a. **Heat Engines.** The application of thermodynamics to the various forms of heat engines, air compressors, and refrigerating machines. Form of plants using such apparatus. Discussion of tests installation and maintenance. This course must be preceded by course 4. T. Th. S., at 10:30. Professor GREENE.

6. **Steam Engine Design.** The determination of the size of the parts of a steam engine to develop a given power. Discussions of vibrations, fly wheels, balancing, transmission of power by belts, ropes and gears, steam piping, shafts. Each student is required to make freehand sketches of the various parts of the complete engine as designed by him. Must be preceded by Mech. 3 and M. E. 1 and

2. *First Semester*, W. F., 10:30-12:30; *Second Semester*, T., 9-11:30; W. F., 10:30-12:30. Professor GREENE.

7a. **Hydraulic Motors.** The theory of the action of turbines, measurements of power, discussion of experiments, design of wheels for specific duty. Must be preceded by Mech. 3. T., 8-10; Th., 8-10; S., 8. Professor GREENE; MR. WHARTON.

8b. **Pumping Machinery.** The design of pumps for waterworks and power transmission. Hydraulic presses and machinery. Pipe lines. Plants. T. Th., at 8. Professor GREENE.

9. **Machine Design.** Design of special machinery. Continuation of work in mechanical drawing and engineering mechanics. The student is required to design a machine tool, crane, pump, girder, or some similar engineering structure and make finished working drawings of the same. Must be preceded by Drawing 1 and 2 and Mech. 3. *First Semester*, T., 1:30-4; *Second Semester*, T. Th., 1:30-4; F., 8-10. MR. FESSENDEN.

10b. **Heating and Ventilating.** The arrangement and design of systems for heating and ventilating buildings. Application to a specific building. Elective for Seniors. T. Th., at 9. Mr. FESSENDEN.

11. **Mechanical Laboratory.** The calibration and adjustment of instruments, measurements of leverage, determination of the efficiency of machines, tests of materials of engineering, measurements of power, hydraulic measurements, valve setting, coal and gas calorimetry. W., 1:30-4. Assistant Professor WESTCOTT.

12. **Mechanical Laboratory.** Testing boilers, engines, pumps, turbines, injectors, air compressors, and refrigerating machinery for efficiency and duty. Studies in generation, transmission and application of power. Heating and ventilating. Calorimetry. *First Semester*, M. F., 1:30-4; *Second Semester*, F., 1:30-4. Assistant Professor WESTCOTT.

13. **Mechanical Laboratory.** A course for electrical engineers. Calibration of instruments and tests of engines, pumps, turbines, and boilers for efficiency and duty. T. Th., at 1:30. Mr. WHARTON.

14a. **Graphics of Machines.** Graphical Analysis of machines. Moment diagrams for shafts, friction of axles, gears, screws. M., 1:30-4; W., 10:30-12:30. MR. FESSENDEN.

15. **Plants and Processes.** A course in the layout and arrangement of plants for different engineering works. Engineering manufacturing process. Elective for Juniors and Seniors. F., 8-10. Professor GREENE.

16a. Valve Gears. A study of the various forms of gears and their design, using the Zeuner and Bilgram diagrams. Elective for Juniors and Seniors. M., 10:30-12:30. Assistant Professor WESTCOTT.

17. Marine Engineering. A study of the marine engine and boiler, together with the auxiliary machinery used on shipboard. Elective for Juniors and Seniors. Given in alternate years, beginning 1906-7. M., at 8. Professor GREENE.

18. Naval Architecture. Buoyancy, stability, metacentric heights, weights, curves, strength, propulsion and steering. Elective for Juniors and Seniors. Given 1907-8, and alternate years. M., at 8. Professor GREENE.

19b. Thesis. An original investigation of an engineering problem. M., 9-12:30. 1:30-4. Professor GREENE; Assistant Professor WESTCOTT.

20. Technical Literature. Reports on reading of technical magazines. S., at 9. Assistant Professor WESTCOTT.

Students in Civil and Electrical Engineering with the required training may elect any of the above courses with the consent of the head of the department in which they are working.

Primarily for Graduates.

21. Generation of Power. Advanced work in the Theory and Design of steam, gas and oil engines, air compressors and motors, steam turbines and hydraulic motors. Hours to be arranged. Professor GREENE.

22. Transmission of Power. Study of methods of the transmission of power, heating, lighting, and arrangement of shops, plants, industrial institutions and towns. Transportation of materials. Hours to be arranged. Professor GREENE.

23. Advanced Laboratory Work. Determination of physical characteristics of fuels, oils, metals. Thermodynamics of heat engines. Tests of complete plants. Original investigations. Hours to be arranged. Assistant Professor WESTCOTT.

24. Railway Engineering. Design, construction and operation of motive power, rolling stock and the auxiliary apparatus em- Hours to be arranged.

25. Kinematics and Machine Design. Advanced work in Kinematics and the design of apparatus for specific work. Hours to be arranged. Mr. FESSENDEN.

26. Refrigeration. Advanced work in the lay-out and opera-

tion of Plants for Refrigeration. Hours to be arranged. Professor GREENE.

27. **Engineering Office Work.** Keeping of costs, estimates, organization of shops, advertising. Hours to be arranged. Professor GREENE; Mr. FESSENDEN.

Mechanics.

Professor DEFOE.

1. **Elementary Mechanics.** Elementary statics and dynamics.

3. **Mechanics of Engineering.** Statics, dynamics, strength of materials, hydrostatics and hydrodynamics. Lectures, W. F., at 8; Recitations, Section I, T. Th. S., at 8; Section II, T. Th. S., at 9; Section III, T. Th. S., at 11:30.

4. **Elasticity.** Mathematical theory of elasticity. T. Th. S., at 10:30.

9. **Hydromechanics.** An elementary course in hydrostatics and hydrodynamics. M. W. F., at 10:30.

12. **Fourier's Series and Potential Functions.** Recitations and lectures. Hours to be arranged.

20. **Problems in Mechanics.** Dynamics of a rigid body. M. W. F., at 11:30.

Mathematics.

Courses in Mathematics required of Engineering students are given on pages 146-50.

Astronomy.

Courses in Astronomy for Engineering students are given on pages 114-116.

Chemistry.

Courses in Chemistry for Engineering students are given on pages 118-120.

Economics.

Courses in Economics for Engineering students are given on pages 122-124.

English.

Courses in English for Engineering students are given on pages 127-130.

Physics.

Courses in Physics for Engineering students are given on pages 155-157.

Shopwork.

Mr. COOK; Mr. BOWEN; Mr. BARNWELL; Mr. JARVIS.

The various courses are arranged so as to give the student a knowledge of tools and machines without unnecessary repetition of processes. As far as possible the exercises are designed to have some personal or commercial value and become the property of the student making them. Theoretical instruction is given by means of lectures and frequent quizzes, and considerable outside reading is required. The practical work is done in the well equipped shops. Examinations on the work are required at frequent intervals.

1. **Wood-work, Forging, Pattern-making and Foundry Practice.**

(A) **Wood-work:** The required exercises illustrate the various joints and typical operations of carpentry and joinery, and give the student familiarity with the use of ordinary tools.

(B) **Forging:** This work includes welding, tempering, case hardening, annealing, etc., and also some study of the metallurgy of iron and steel.

(C) **Pattern-making:** This includes the practical study of shrinkage, draft, parting, core prints, patterns requiring three part flasks, and the different methods of construction and core work, together with the construction of patterns of different parts of machines to be finished in the machine room. All patterns are tested in sand by the maker, and where practicable are to be cast in lead.

(D) **Foundry Practice:** This work consists of the study of modern foundry methods and the practical application of the same.

Section I, M. W. F., 10:30-12:30; Section II, M. W. F., 8-10; Section III, T. Th. S., 8-10; Section IV, T. Th. S., 10:30-12:30; Section VIII, T. Th. S., 10:30-12:30.

1a. **Woodwork and Forging.** (as above). Section V, M. W., 1:30-4; Section VI, W. F., 9-11:30; Section VII, T. Th., 1:30-4.

2. **Machine Work.** The aim of this course is to give the student an acquaintance with the approved methods of machine construction and of modern machine shop practice. Chipping, filing, and fitting, as well as the assembling of small machines, are carefully supervised and graded. Section I, M., 8-10:30; W., 1:30-4; Section II, T. Th., 1:30-4; Section III, M. F., 1:30-4. Sophomore.

3. **Advanced Machine Work.** This course is intended for students who desire to specialize in this work and requires more experience than course 2 will give. Given if there is a demand for it. M. W. F., 8-10.

Mechanical Drawing and Descriptive Geometry.

Assistant Professor RODHOUSE; Mr. WELCH; Mr. EDWARDS.

Instruction is given to all regular Engineering students in the principles of geometrical and mechanical drawing and in free-hand sketching. A large amount of time is devoted to practice in the drawing-room to enable the student to acquire the skill necessary for his future work. Drawing is continued also in connection with the student's professional studies.

1a. **Mechanical Drawing.** Selected geometrical problems, shading, and sectioning; mechanical lettering, plain free-hand lettering, and elementary machine drawing.

Freshman E. E. and M. E.: Section I, T. Th. S., 10:30-12:30; Section II, T. Th. S., 8-10; Section III, T. Th. S., 8-10; Section IV, M. W. F., 10:30-12:30; Section VIII, T. Th. S., 8-10.

Freshmen C. E.: Section V, T. Th. S., 10:30-12:30; Section VI, T. Th. S., 10:30-12:30; VII, M. W. F., 8-10; VIII, T. Th. S., 8-10.

2b. **Descriptive Geometry.** Orthographic projections, problems relating to points, lines, and planes. Representation of surfaces, their tangencies, intersections and developments, with practical applications. Shades and shadows. Isometric, cabinet, and perspective views.

Sections I, II, III, IV, and VIII, schedule same as 1a for M. E. and E. E. Section V, VI, VII, and VIII, schedule same as 1a for C. E. Freshmen.

3a. **Stereotomy.** Problems in stone-cutting; drawings for masonry structures. Isometric, cabinet, and perspective drawing. Section IV, T. Th. 1:30-4; Sections V, and VI, M. F., 1:30-4. Sophomore, C. E. course.

4b. **Machine Drawing.** Assembly drawings and tracings are made from specially prepared sketches of details for the purpose of familiarizing the student with conventions used in engineering practice. The parts of complete machines of approved design are then sketched free-hand and the dimensions given on the sketches. Working drawings, assembly and detail, are made from these sketches without further reference to the parts. Blue prints are

made by each student from his own tracings. Sections I, III, IV, T. Th., 1:30-4; Sections II, V, VI, M. F., 1:3014. Sophomore, E. E., M. E. and C. E. Courses.

5a. **Topographic Drawing.** Topographic signs; map drawing. Sections V and VI, M., 8-10; Section VII, W., 1:30-4; Section VIII, F., 10:30-12:30. Freshman C. E. course.

7b. **Advanced Lettering.** Free-hand and mechanical lettering with the analysis and construction of standard plain and ornamental alphabets. Their application in the design of titles for maps, charts, and engineering drawings. Elective for Juniors and Seniors. S., 1:30-3:30.

VII. DEPARTMENT OF JOURNALISM.

There was established in the University in 1906, a Department of Journalism, co-ordinate with the Departments of Law, Medicine, and other professional schools. Occasional lectures are delivered on Journalism by distinguished members of the profession, but, as yet, no regular courses are offered. It is expected, however, that courses will be offered next year, of which due announcement will be made. The Department will be provided with adequate laboratory equipment. Entrance requirements will be the same as for the College of Arts and Science.

MISSOURI STATE MILITARY SCHOOL.

JOSEPH FRAZIER, Captain 14th U. S. Infantry.
Professor of Military Science and Tactics, and Commandant of Cadets.

Appointment of State Cadets:

The following extracts from the Revised Statutes, 1899, of Missouri (section 10561-6 inclusive as included in 1907), will be of interest to those who desire to receive appointment as cadets:

"The Military Department of the University of the State of Missouri as organized under section 1225, Revised Statutes of the United States, and section 10507, Revised Statutes of Missouri, 1899, is created the Missouri State Military School.

The corps of cadets of the Missouri State Military School shall consist of appointees of the Governor, Senators and Representatives, and of such students as may be required by the University authorities to take Military training, and of such students as may voluntarily enter such school. All appointments under this section shall be for the term of two years. The Governor of Missouri shall have power to appoint ten cadets from the State at large and each Senator and Representative of the General Assembly of Missouri three cadets from his district, on or before the first day of August of each year: *Provided*, that if there shall be no qualified applicants for such cadetships in any such district or districts by the first day of August in any such year, such appointment or appointments may be made from any other district in this State; *And Provided*, that in case of death, resignation or expulsion of any cadet from the University, the Governor, Senator or Representative who made the appointment or their successors may fill such vacancies at any time. All appointees under this section shall pass the required examination for admission to the University.

"Cadets receiving instruction, as provided in the preceding section, shall be matriculated in all Academic departments, and in the College of Agriculture and Mechanic Arts of the University, free from tuition and other fees.

"The corps of cadets, as provided in the preceding sections, shall have the military organization prescribed for the National

Guard of the State and be reckoned a part thereof, and as such entitled to all such provisions as are or may hereafter be made for the National Guard of Missouri.

"The military government and discipline of the cadets shall be prescribed by regulations prepared by the Faculty of the University and approved by the Governor of the State. The officers of the corps of cadets shall be appointed and commissioned by the Governor of the State, upon the recommendation of the Faculty of the University, and shall have the power conferred by said regulations.

"Cadets shall be individually responsible for all State property issued directly to them, and shall constitute a guard for the safe-keeping and preservation of all University property."

Requirements for Admission:

No cadet will be received who is less than five feet, one inch in height, or who is in any way physically disqualified for military service, or who has not been duly matriculated in some other Department of the University.

All male students of the University not physically disqualified, will be allowed to enroll themselves as voluntary cadets. A copy of the regulations for the government of the cadets is given to each cadet upon his entrance into the Missouri State Military School. Cadets should report by September 9, if possible. Vacancies may be filled at the discretion of the Senators and Representatives.

Equipment and Supplies:

Six hundred "Krag-Jorgensen" rifles, one Gatling gun, cal. 45, with full equipment; two 3.2 inch rifled field guns (breech loaders), with carriages and implements, twenty-five sabres, and a suitable amount of ammunition and target materials are furnished by the United States. The State supplies ammunition, camp equipage, utensils, etc. The University supplies instruments and instruction for the band.

Uniforms:

Cadets wear but one style of uniform, known as the undress or fatigue uniform. Uniforms must be worn at all military exercises, and tailor-made uniforms are supplied to volunteer cadets at a contract price (about $13.00.) The State usually furnishes uniforms to regularly appointed cadets, or the major part thereof, free of cost (one entire uniform every year to each appointed cadet, depending upon amount of appropriation by Legislature).

Regulations:

Cadet regulations prescribe that military drill, etc., shall be held at least three hours a week, one of which shall be for theoretical and two for practical instruction. The regulations require, also, whenever the means of the University permit it, an annual encampment of from eight to ten days, during which the instruction is entirely military and practical. The expenses of the encampment are borne by the University. A copy of the regulations may be secured at the Commandant's office. Every cadet must strictly conform to these rules.

COURSE OF INSTRUCTION.

FIRST YEAR.

Practical instruction in the schools of the soldier, company, and battalion (infantry), and extended order.

Practical instruction in rifle-firing, 100, 200, 300, 400, and 500 yards.

Practical instruction in duties of camp, embracing guard duty, etc.

Recitations in infantry drill regulations through school of the company, ceremonies of guard mounting, dress parade, inspection, review, muster, and extended order.

Recitations in guard duty and cadet regulations.

Recitations in artillery tactics, sabre drill, etc.

SECOND YEAR.

Practical instruction in the schools of the company and battalion, and extended order.

Practical instruction in the service of field-guns (foot battery), with mechanical manoeuvres.

Practical instruction in the service of machine guns.

Practical instruction in rifle-firing, 100, 200, 300, 400, and 500 yards.

Practical instruction in the duties of camp life, embracing guard duty, etc.

Practical instruction in military signaling.

Recitations in infantry drill regulations, school of battalion.

Recitations in artillery tactics, manual of the piece dismounted, etc.

Recitations in Military Science.

Lectures are given by the commandant on army organization, the Army of the United States, army regulations, court martial, and military law, the customs of war, security and information (including out-posts, advance and rear guards, patrols, reconnoissances, orientation, and map reading), guard duty, castrametation, field service, field fortification, rifle-firing, and target practice.

Recitations are held during the winter months, when the weather is unfit for drill. All cadets not included in the two preceding classes are required to take a short review of the previous work.

Certificate of Proficiency:

To have passed through the entire course does not entitle a cadet to receive a certificate of proficiency in Military Science and Tactics, but it is the rule now adopted in the University, that the certificate will be issued to every cadet, state or volunteer, who takes the entire course and attains a grade of at least 70 per cent in *every examination* given during the two years in Military Science and Tactics.

Credit for Work in Military Department:

Beginning with 1905-06, Military Science and Tactics may be offered as an elective for undergraduates in the following departments and schools of the University: Academic Department, Teachers College, the School of Agriculture, and the School of Engineering, on the same basis and subject to the same conditions that are provided under the existing rules of the Academic Department for the election of Physical Training, provided that the total credit for Military Science and Tactics, and Physical Training shall not exceed four (4) hours' credit.

For Military Prizes, see page 90.

For Cadetship, see page 92.

PROVISIONAL REGIMENT.

Organization.

Staff.

Commandant ..... .Captain Joseph Frazier, 14th U. S. Infantry
Lieutenant-Colonel, Commanding Regiment ..... J. E. Price

Major, Commanding First Battalion ..... R. S. Cole
Major, Commanding Second Battalion ..... W. C. Logan
Regimental Adjutant ..... L. H. Winkler
Regimental Quartermaster ..... W. B. Lanham
Battalion Adjutant ..... R. V. Denslow
Battalion Quartermaster ..... H. A. Krumm
Regimental Sergeant-Major ..... D. H. Doane
Battalion Sergeant-Major ..... C. R. Bender
Battalion Sergeant-Major ..... A. H. Kiskaddon

Company "A."

Captain ..... R. A. McCoy
First Lieutenant ..... W. E. Bailey
Second Lieutenant ..... L. E. A. Kelso

Company "B."

Captain ..... A. J. McKenzie
First Lieutenant ..... H. P. Rusk
Second Lieutenant ..... B. W. Tillman

Company "C."

Captain ..... J. F. Bullivant
First Lieutenant ..... C. B. Smith
Second Lieutenant ..... R. T. Bond

Company "D."

Captain ..... M. E. Brown
First Lieutenant ..... A. R. Hardy
Second Lieutenant ..... H. G. Martin

Company "E."

Captain ..... F. E. Briggs
First Lieutenant ..... B. S. Walker
Second Lieutenant ..... L. L. Bernard

Company "F."

Captain ..... W. E. Price
First Lieutenant ..... F. G. Heckler
Second Lieutenant ..... W. F. Burroughs

Band.

First Lieutenant and Bandmaster ..... B. H. Oxment
Drum-Major ..... C. A. Rockwood
Total enrollment to date during the year 1906-07 353

Those cadets are appointed to office who show ready obedience, zeal and capacity in the discharge of military duty. The Governor of Missouri issues commissions to those entitled by their battalion rank to receive them.

State Commissions:

The Revised Statutes of Missouri, 1899, provide as follows:

"Chapter 130. Section 8601. Every graduate of any college in the State of Missouri in which military instruction is regularly given by an officer of the United States Army detailed for that purpose, who shall have received military instruction during a course of four years, shall be entitled to a commission as brevet second lieutenant of the National Guard of Missouri, subject to such physical examination as to ability as the commander-in-chief may from time to time prescribe: Provided, that application for such commission be made within one year after graduation from such college, and that such applicant shall be at the time a citizen of the State of Missouri."

IX. SCHOOL OF MINES AND METALLURGY.

A Department of the University of Missouri.

(At Rolla, Missouri.)

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

GEORGE EDGAR LADD, A. B., A. M., Ph. D.,
Director, and Professor of Geology and Mining.

GEORGE REGINALD DEAN, B. S., C. E.,
Professor of Mathematics.

AUSTIN LEE McRAE, B. S., S. D.,
Professor of Physics.

VICTOR HUGO GOTTSCHALK, B. S., M. S.,
Professor of Chemistry.

ELMO GOLIGHTLY HARRIS, C. E.,
Professor of Civil Engineering.

JAMES CLARK DRAPER, B. S., E. M.,
Professor of Mining Engineering.

GEORGE ARTHUR PACKARD, S. B.,
Professor of Metallurgy.

LEON STACY GRISWOLD, A. B.,
Assistant Professor of Geology and Mineralogy.

JOSEPH HENRY BOWEN,
Assistant Professor of Shopwork and Drawing.

LEON ELLIS GARRETT, B. S.,
Assistant Professor of Mathematics.

ROBERT CLAIR THOMPSON, B. S., M. S.,
Assistant Professor of Chemistry.

PAUL JULIUS WILKINS, B. S.,
Instructor in Modern Languages.

JOHN BENNETT SCOTT,
Instructor in English, and Secretary of the Faculty.

ELWYN LORENZO CLARKE, B. S.,
Instructor in Civil Engineering.

EDWARD STAPLES SMITH, M. E.,
Instructor in Drawing.

HORACE THARP MANN,
Assistant in Chemical Laboratory.

FREDERIC ARNOLD MOORE,
Assistant in Chemical Laboratory.

ALBERT BABBIT BARTLETT,
Assistant in Surveying.

FRANK LEWIS LEONARD WILSON,
Assistant in Mineralogy.

ANDREW JACKSON SELTZER,
Assistant in Metallurgy.

ELDON EVERETT COOK,
Assistant in Physics.

EDWIN RICHARD WASH,
Assistant in Assaying.

WILLIAM CRUTCHER PERKINS,
Assistant in Surveying.

IRA LEE WRIGHT,
Assistant in Surveying.

CLYDE REX WOOD,
Assistant in Drawing.

EDWARD PHILLIP BARRETT,
Assistant in Chemical Laboratory.

THOMAS GRANT COOKE,
Assistant in Chemical Laboratory.

ORGANIZATION.

In 1870 the General Assembly, in accepting the donation by the general government of lands for educational purposes, established an Agricultural College and School of Mines and Metallurgy, "the leading object of these colleges," being "to teach such branches as are related to agriculture and mechanic arts and mining, including military tactics, and without excluding other scientific and classical studies, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." The statutes fix the status of the School of Mines and Metallurgy as a Department of the State University. Its affairs are under the immediate supervision of the Executive Committee, consisting of three members of the Board of Curators of the University.

ADMISSION.

Conditions for admission the same as for the Department of Engineering at Columbia. See pages 55-65.

LOCATION.

The School of Mines and Metallurgy is situated at Rolla, the county seat of Phelps county, on the St. Louis and San Francisco R. R., approximately half way between St. Louis and Springfield.

Rolla is on the crest of the Ozark uplift. It has an elevation of 1,140 feet above the sea level, and enjoys an agreeable and notably healthful climate. Its position on a great transcontinental railway system renders it readily accessible from all quarters. It is within easy reach of the lead and zinc districts of the southwest, and of the lead and iron region of the southeast, where opportunities to observe processes of mining and smelting the latter ores are close at hand. The numerous and varied smelting and chemical plants in and about St. Louis likewise offer good opportunities for the study of processes.

CAMPUS AND ATHLETIC FIELD.

The grounds of the School of Mines and Metallurgy are situated in the highest part of the City of Rolla, and are over twenty-seven acres in extent.

The Campus contains beautiful lawns, groves of native oak, and is adorned and surrounded by hundreds of ornamental shade trees.

The Athletic Field has a good baseball diamond, a football grid-iron, tennis courts, a hundred and twenty-yard cinder hurdle, and sprinting track.

BUILDINGS.

The buildings are nearly all substantial brick structures, well ventilated and lighted, and heated by steam.

There are nine buildings located on the enclosed campus.

Mining and Metallurgical Building.
Chemical Laboratory.
Museum and Geological Survey.
Workshop.
Director's Residence.
Mechanical Building.
Norwood Hall, Engineering Building.
Heating and Power Plant.
Ore Dressing Building.

LIBRARY.

The Library contains 6,000 carefully selected volumes. Good collections of works on Engineering, Mathematics, Chemistry, Physics, Mining, Metallurgy, Geology and Mineralogy, afford to students in these departments an opportunity to pursue an extended course in reading in connection with their class work. The Library also contains the standard works in English and American poetry, fiction, biography and history. It is well provided with encyclopedias and works of general reference. It is open and in charge of the Librarian from 9 a. m. to 12 m., from 1 p. m. to 5 p. m., and from 7 to 9 p. m. During these hours books may be taken out, and Library room used for reading and study.

The Library has recently been moved to Norwood Hall, where it is installed on the first floor in the west end of the building, and provided with a large, well lighted and newly furnished Reading Room.

EXPENSES.

Laboratory Fees. The Board of Curators, at a meeting held in December, 1898, voted to make tuition free, and to abolish the entrance fees which had hitherto been charged. The fixed charges remaining are: a library fee of $5 per year, payable upon entrance; a laboratory fee to cover the cost of gas and supplies, amounting to $10, for the course in General Chemistry; a laboratory fee of $15 to cover the cost of general supplies, gas, etc., for the course in qualitative analysis; a fee for Seniors and Juniors, taking chemical laboratory work, of $3.50; a fee for the course of Shopwork, to cover the cost of supplies, of $5; a general fee, to cover the cost of supplies, for students taking Assaying, of $25; a fee, for students taking Mineralogy, to cover the cost of supplies, of $8; and a fee of $5 for students in Senior Metallurgy.

The above charges are made on the basis of the actual average cost to each student for supplies in the respective courses, at wholesale rates.

Excursion Expenses. The cost of field excursions will average about $35 a year.

Contingent Deposit. Deposits to cover the cost of extra supplies, damage to apparatus, etc., are required of the different classmen as follows: Freshmen, $10; Sophomores, Juniors and Seniors, $15. These deposits must be renewed if at any time exhausted, and at the end of the school year whatever sum may remain to the credit of the depositor is returned to him. No distinction, in admission or charges is made between residents of this state and those of any other state or country.

Living Expenses. Board, including lodging, meals, fuel and lighting, may be had for from $14.00 to $20.00 a month.

ATHLETICS.

The school encourages rational athletics. Occasional privileges are granted to athletic teams, but prolonged absence from work is not permitted. An athletic field has been enclosed and graded for baseball, football, etc., and an ample number of tennis courts have been laid out, and are maintained in good order. A general athletic association exists among the students, also football and baseball teams, and a tennis club.

Athletic Fee. Each student is requested to pay a fee of $5.00 in the interest of athletics.

TERM REPORTS.

Reports are sent to the parents or guardian of every student at the close of each term, showing the student's grade in scholarship, and giving such other information in regard to his progress, attendance, etc., as may be thought to be of interest. The attention of parents and guardians is particularly called to these reports.

COURSES AND DEGREES.

The School of Mines and Metallurgy offers four full courses leading to the degree of Bachelor of Science (B. S.), as follows:

I.—Mining Engineering; II.—Civil Engineering; III.—Chemistry and Metallurgy; IV.—General Science; besides several special shorter courses.

The further degree of Engineer of Mines (E. M.), Civil Engineer (C. E), Metallurgical Engineer (Met. E.), or Master of Science (M. S.), will be conferred on candidates who, after receiving the first degree from this University or one of equivalent standing have spent in the same course one year (at least ten hours a week) in graduate work in the University, or three years in professional practice and in graduate work *in absentia*. The candidate must pass an examination on his graduate work and present a satisfactory thesis.

It is the object of the instruction at this institution, first to lay a broad and solid foundation in the way of acquaintance with principles and theory, and to supplement this, wherever possible, by the discipline of practical application in the laboratory and field. Lectures and recitations are arranged to come in the morning hours, leaving the afternoon for laboratory and field work. The practical work is designed to illustrate and impress principles, to familiarize the student with the use of instrumnts with which he is to be concerned in the work of his profession, and to afford an opportunity for original investigation. "Head-work" and "hand-work" go together. What is taught orally in the lecture room is applied and illustrated in the laboratory.

Special Courses:

In addition to the four regular courses leading to degrees, mentioned above, a number of shorter courses are also offered. They are: Chemistry and Assaying, Mining, Surveying, and Electricity. They have been planned for the benefit of those who, for various

legitimate reasons, are unable to take the regular four year courses.

The course in Assaying and Technical Analysis will require two years' work, although mature students, who have already some knowledge of Chemistry, may complete it in one year. For description see page 302.

The purpose of the course in Surveying is to turn out competent land and mining surveyors and fair draughtsmen. The essentials of it are a thorough knowledge of algebra, geometry, trigonometry, and surveying, field practice and drawing. One school year and the first term of a second, will be required for the completion of this course.

A two years' course in Mining is offered to students, especially such as have had some practical experience, who may wish to fit themselves for holding important positions about mines or in ore-dressing plants, but who are unable, on account of the lack of preparation or of time, to take the full course in Mining Engineering. Besides Mathematics this course embraces General Chemistry, Assaying, Mineralogy, Geology, Mining, Surveying, English, etc.

A course in Electricity is offered to furnish the student with the theory of Electricity, and acquaint him with its application in the arts. This subject is of prime importance to every engineer, especially to the Mining Engineer, since Electricity has become such an important factor in mining operations.

For outline of Special Courses, see page 302.

EXCURSIONS.

Voluntary:

A summer excursion, for students who have passed their Junior work, to the deep mining district of the Rocky Mountains or Lake Superior. Geological phenomena, mines and ore dressing and metallurgical plants will be the subjects of study.

Required:

First. At the close of the Sophomore year, three weeks of summer field work for practice in topography, lines of communication, etc., will be required of students in Civil Engineering. This work will be carried on in the vicinity of Rolla.

Second. At the close of the Junior year, students in Mining and Metallurgical Engineering will make a four weeks' excursion to Southeast and Southwest Missouri, for the purpose of practice in

Mine Surveying and of studying Economic Geology, Mining and Ore Dressing.

Third. An excursion by the Senior class to Steelville, Sligo and Palmer, for the purpose of studying iron and lead deposits and methods of reduction. This excursion will take place during the latter part of the Senior year.

Fourth. An excursion by the Senior class to Herculaneum, St. Louis, Granite City, and the coal fields of Illinois. This excursion will take place in the latter part of the Senior year.

COURSE I.—MINING ENGINEERING.

FRESHMAN YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
Higher Algebra	5	0	0
Solid Geometry	3	0	0
Descriptive Geometry	0	1	1
Trigonometry	0	5	0
Analytic Geometry	0	0	5
General Chemistry	5	5	5
English	5	5	5
Laboratory Work.			
General Chemistry	3	3	3
Drawing, Mechanical	6	6	6
Descriptive Geometry, Drawing	0	5	5
Shop Practice	6	6	3
Themes			
SOPHOMORE YEAR.			
Lectures and Recitations.			
Calculus	5	5	5
German, French or Spanish	5	5	5
Surveying	5	0	0
Lines of Communication	0	0	3
General Physics	0	0	5
Crystallography	0	3	0
Qualitative Analysis	1	1	0
Elementary Mechanics	0	2	0
Laboratory Work.			
Qualitative Analysis	6	6	0
Mineralogy	0	6	6
Physics	0	0	6
Surveying	6	0	3
Forge Work	6	6	0
Shop Work	0	3	0
Topography, one week	0	48	0
Themes			

JUNIOR YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
General Physics	5	0	0
Mechanics	5	0	0
Mechanics of Materials	0	5	0
Hydraulics	0	0	5
General Geology	3	3	3
Thermodynamics	0	5	0
Ore Dressing	3	3	0
Metallurgy	0	0	5
Masonry	2	0	0
Dynamo Machinery	0	0	3
Assaying	0	2	0
Laboratory Work.			
Quantitative Analysis	7½	4½	6
Physics	6	0	0
Steam	0	3	0
Geology	1½	1½	3
Ore Dressing	4	0	0
Drawing and Graphics	0	3	3
Dynamo	0	0	6
Assaying	0	9	0
SENIOR YEAR.			
Lectures and Recitations.			
Frame Structures	5	0	0
Alternating Currents	5	0	0
Electrical Transmission	0	3	0
Metallurgy	5	5	5
Economic Geology	2	2	5
Mining	0	3	3
Compressed Air	0	2	0
Contracts and Specifications	0	0	2
Metallurgy Conference	1	1	1
Laboratory Work.			
Metallurgy	4	7	0
Alternating Currents	6	0	0
Mill Design	6	0	0
Mining Design	0	0	3
Metallography	0	6	0
Metallurgy Design	0	3	0
Electrical Problems	0	3	0
Graphics	3	0	0
Special Investigation	0	0	9

COURSE II.—CHEMISTRY AND METALLURGY.

FRESHMAN YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
Higher Algebra	5	0	0
Solid Geometry	3	0	0
Descriptive Geometry	0	1	1
Trigonometry	0	5	0
Analytic Geometry	0	0	5
General Chemistry	5	5	5
English	5	5	3
German (Elementary)	0	4	4
Qualitative Analysis	0	0	2
Laboratory Work.			
General Chemistry	9	0	0
Qualitative Analysis	0	9	9
Drawing (Mechanical)	6	6	6
Descriptive Geometry Drawing	0	5	5
Themes			
SOPHOMORE YEAR.			
Lectures and Recitations.			
Calculus	5	5	5
German (Scientific)	5	5	4
Surveying	5	0	0
Elementary Mechanics	0	2	0
General Physics	0	0	5
Crystallography	0	3	0
Quantitative Analysis	2	2	2
English Literature	1	1	0
Physical Chemistry	0	0	2
Laboratory Work.			
Quantitative Analysis	9	12	6
Surveying	6	0	0
Mineralogy	0	6	6
Physics	0	0	6

JUNIOR YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
General Physics	5	0	0
Analytic Mechanics	5	0	0
Hydraulics	0	0	5
General Geology	3	3	3
Ore Dressing	3	3	0
Quantitative Analysis	2	3	0
Assaying	0	2	0
Electrochemistry	0	3	2
Metallurgy	0	0	5
Dynamo Machinery	0	0	3
Constitution of Alloys	0	2	0
Memoirs (Chemical)	0	1	0
Laboratory Work.			
Quantitative Analysis	7½	6	0
General Geology	1½	1½	3
Electrochemistry	0	3	6
Metallurgy (Special)	0	0	3
Physics	6	0	0
Assaying	0	9	0
Dynamo	0	0	6
Ore Dressing	4	0	0
SENIOR YEAR.			
Lectures and Recitations.			
Alternating Currents	5	0	0
Electrical Transmission	0	3	0
Economic Geology	2	2	5
Metallurgy	5	4	4
Metallurgy Conference	1	1	1
Metallurgy Organization	0	4	1
Metallurgy Problems	0	0	4
Metallurgy Accounting	0	3	0
Electrochemical Analysis	0	1	0
Electrometallurgy	2	0	0
Quantitative Analysis	2	0	0
Memoirs	1	0	1
Contracts	0	0	2
Laboratory Work.			
Mill Disign	6	0	0
Quantitative Analysis	6	0	0
Alternating Currents	6	0	0
Metallurgy	4	7	0
Electrochemical Analysis	0	3	0
Electrometallurgy	0	0	3
Metallurgy Accounting	0	3	0
Metallography	0	6	0
Electrical Problems	0	3	0
Advanced Chemical Analysis or Metallurgy	0	0	6
Metallurgy or Electrometallurgy Design	0	0	6

COURSE III.—CIVIL ENGINEERING.

	Time in hours a week.		
FRESHMAN YEAR.	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
Higher Algebra	5	0	0
Solid Geometry	3	0	0
Trigonometry	0	5	0
Analytic Geometry	0	0	5
General Chemistry	5	5	5
English	5	5	5
Descriptive Geometry	0	1	1
Laboratory Work.			
General Chemistry	3	3	3
Drawing, Mechanical	6	6	6
Shop Practice	6	6	3
Themes			
Descriptive Geometry Drawing	0	5	5
SOPHOMORE YEAR.			
Lectures and Recitations.			
Calculus	5	5	5
German, French or Spanish	5	5	5
Surveying	3	0	0
Lines of Communication	0	0	3
General Physics	0	0	5
Geodesy	0	3	0
Elementary Mechanics	0	2	0
English Literature	1	1	0
Laboratory Work.			
Surveying, Field Practice	9	0	9
Physics	0	0	6
Forge Work	6	6	0
Surveying, Computations and Drawing	0	9	0
Topography, one week	0	48	0
Themes			

JUNIOR YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
General Physics	5	0	0
Mechanics	5	0	0
Mechanics of Material	0	5	0
Hydraulics	0	0	5
General Geology	3	3	3
Thermodynamics	0	5	0
Masonry Construction	2	0	0
Dynamo Machinery	0	0	3
Roads and Pavements	0	0	3
Railroad Economics	0	0	2
Astronomy	0	2	0
Laboratory Work.			
Physics	6	0	0
Steam	0	3	0
Geology	1½	1½	3
Drawing and Graphics	6	6	6
Dynamo	0	0	6
Cement and Concrete	3	0	0
SENIOR YEAR.			
Lectures and Recitations.			
Frame Structures	5	0	0
Alternating Currents	5	0	0
Electric Transmission	0	3	0
Compressed Air	0	2	0
Contracts and Specifications	0	0	2
Water Supply	5	0	0
Sanitary Engineering	0	5	0
River and Harbor Improvement and Irrigation	0	0	5
Masonry Designs and Concrete Steel	0	0	2
Bridges (Higher Structures)	0	5	0
Metallurgy of Steel	0	0	5
Laboratory Work.			
Alternating Currents	6	0	0
Electrical Problems	0	3	0
Engineering Designs	9	12	0
Special Investigation	0	0	15

COURSE IV.—GENERAL SCIENCE.

	Time in hours a week.		
FRESHMAN YEAR.	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
Higher Algebra	5	0	0
Solid Geometry	3	0	0
Trigonometry	0	5	0
General Chemistry	5	5	5
English	5	5	5
German	0	4	4
Laboratory Work.			
General Chemistry	3	3	3
Drawing	6	6	6
Themes			
Elective	6	6	6
SOPHOMORE YEAR.			
Lectures and Recitations.			
German	5	5	5
English	5	5	5
General Physics	0	0	5
Qualitative Analysis	1	1	0
Elementary Mechanics	0	2	0
Laboratory Work.			
Qualitative Analysis	6	6	0
Physics	0	0	6
Elective	9	9	9
Themes			

JUNIOR YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
French or Spanish	5	5	5
General Physics	5	0	0
General Geology	3	3	3
Crystallography	0	3	0
Elective	2	5	8
Laboratory Work.			
Physics	6	0	0
Geology	3	3	3
Mineralogy	0	6	6
Elective	6	6	6

SENIOR YEAR.

All Elective.

Selection of studies subject to approval of Faculty.

Elective after Sophomore year along one of the two lines: Physics and Mathematics, or Chemistry and Geology. Twenty hours recitation or fifteen hours recitation and five afternoons laboratory work constitute a course.

SCHOOL OF MINES, CHEMISTRY AND ASSAYING.

FIRST YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
[illegible]	5	0	0
[illegible]	5	0	0
[illegible]	0	5	0
[illegible]	5	5	5
General Chemistry	5	5	5
[illegible]	0	0	6
Qualitative Analysis	0	1	1
Laboratory Work.			
General Chemistry	9	0	0
Qualitative Analysis	0	9	9
Drawing, Mechanical	6	6	6
SECOND YEAR.			
Lectures and Recitations.			
Surveying	3	0	0
Lines of Communication	0	0	3
Ore Dressing	3	3	0
General Geology	3	3	3
Mining	0	3	3
Assaying	0	2	0
Laboratory Work.			
Surveying, Field Practice	6	0	3
Ore Dressing	4	0	0
Mineralogy	0	6	6
General Geology	1½	1½	1½
Quantitative Analysis	7½	4½	6
Assaying	0	9	0

SPECIAL COURSE IN ELECTRICITY.

FIRST YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
Higher Algebra	5	0	0
Solid Geometry	3	0	0
Trigonometry	0	5	0
Analytic Geometry	0	0	5
General Chemistry	5	5	5
English	5	5	5
Electricity and Magnetism	0	3	0
Laboratory Work.			
General Chemistry	3	3	3
Drawing, Mechanical	6	6	6
Shop Practice	6	6	6
Themes			
Physics	0	3	0
SECOND YEAR.			
Lectures and Recitations.			
Elementary Mechanics	0	2	0
General Physics	5	0	5
Calculus	5	5	5
Dynamo Machinery	0	0	3
Elective	6	3	3
Thermodynamics	0	5	0
Laboratory Work.			
Physics	9	9	9
Elective	6	3	6
Steam	0	3	0

SPECIAL COURSE IN SURVEYING.

FIRST YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations.			
Higher Algebra	5	0	0
Solid Geometry	3	0	0
Trigonometry	0	5	0
English	5	5	5
Elective	2	5	10
Laboratory Work.			
Drawing	6	6	6
Field Practice	0	0	6
Elective	9	9	3

SECOND YEAR.

Lectures and Recitations.

Surveying	5 hours a week.
Elective	10 " " "
Field Practice	9 " " "
Drawing	6 " " "

COURSES IN DETAIL.

Mathematics.

Professor DEAN; Assistant Professor L. E. GARRETT.

The study of Mathematics, as pursued at this school, is chiefly for the purpose of acquiring a working knowledge of its use in the subsequent studies of Engineering, Physics, and Chemistry, and not merely as a component part of a general education. Great care is accordingly exercised to insure the attainment of skill in practical applications requiring analytical powers as well as mere computation. Frequent written reviews test the proficiency of the student. Advanced standing is given only when equivalent work has been done in a School of Engineering.

Prescribed Work.

1. **Solid and Spherical Geometry.** The usual college course, supplemented by lectures and problems of special interest to Engineers, such as projections, prismoidal formulae and their application in calculation of earth work, masonry, masonry structures, capacity of tanks and reservoirs. Freshmen, First term, three hours a week.

2. **Graphic Algebra, Curve Tracing and Algebraic Analysis.** This course is designed to fit students for the study of Analytic Geometry and Calculus. It embraces the following topics: Solution of quadratic equations; theory of quadratic expressions; solution of higher numerical equations, graphically and arithmetically; theory of integral algebraic functions; tracing of curves having simple numerical equations; graphical and arithmetical calculation of coefficients of empirical formulae; convergency of infinite series; use of infinite series in approximate calculations; practical applications of the binomial theorem; errors of observation; method of least squares. Freshmen, First term, five hours a week.

3. **Trigonometry, Plane and Spherical.** This subject being the most important in the mathematical equipment of the engineer is given due prominence. The student is drilled, not only in the solution of triangles and other geometrical problems, but in the applications of the trigonometry functions in analysis and in shortening computations. Freshmen, Second term, five hours a week.

4. **Analytic Geometry.** An extensive knowledge of this subject is not necessary, but the student ought to obtain a *working* knowledge of the relations of an equation and the curve which it represents. The following outline shows the extent and character of the course: Equations of straight lines under given conditions; the straight line as locus; relations of two or more straight lines; equations of circles under given conditions; the circle as locus; intersections of curves and straight lines; equation of tangent to any curve; asymptotes; classification of curves of second degree; plotting curves of second degree from numerical equations; center of conic section; diameters; relation of diameters and tangents; determination of foci, eccentricity and directrices of conic section; study of special forms of equation of second degree; reduction of general equation to simplest form. The work in Solid Analytic Geometry is given in connection with the Differential and Integral Calculus. Freshmen, Third term, five hours a week.

5. **Differential Calculus.** To the student and the engineer who is willing to take for granted the formulae worked out by other persons, the Calculus is unnecessary, but to those who wish to satisfy themselves as to the correctness of the reasoning and formulae of others, and to independent workers in Physics, Chemistry, and Mechanics, it is indispensable. This course includes: Graphic representation of functions; algebraic and geometrical limits; derivatives of algebraic functions; geometrical problems in maxima and minima involving algebraic functions; tangents, normals and asymptotes; tracing curves having singular points; derivatives of trigonometric functions; problems in maxima and minima; kinematical problems; derivatives of inverse trigonometric functions; derivatives of complex functions; Maclaurin's Theorem and applications; Taylor's Theorem and applications; functions of two variables; problems in maxima and minima; tangent planes and normals. Sophomore, first term, five hours a week.

6. **Integral Calculus.** An attempt is made to ground the student so thoroughly in the integration of the functions most commonly occurring in Mechanics and Physics that he may be independent of tables of integrals. Considerable use is made of integration in series and of integration in the development of functions in series. Particular attention is given to integration as a summation. Sophomore, Second term, five hours a week.

7. **Applications of Integral Calculus.** Areas of plane curves; lengths of curves; flow of liquids through orifices and channels;

centroid of plane areas; moment of inertia of plane lamina; volumes of solids of revolution; moment of inertia of solids of revolution; centre of gravity of solids of revolution; theory of attraction and potential; differential equations of the first and second orders; partial differential equations of the first order; differential equations of mechanics and thermodynamics. Sophomore, Third term, five hours a week.

Elective Work.

Students in the General Science Course who elect work in Pure Mathematics will confer with the head of the department, who will arrange work according to the needs, tastes and aptitudes of the applicants. There is no attempt made to give *Graduate* work in this department, but any student who shows ability will be encouraged.

Chemistry.

Professor GOTTSCHALK; Assistant Professor THOMPSON; Mr. MANN; Mr. MOORE; Mr. BARRETT; Mr. COOKE.

1. **General Chemistry.** A comprehensive study of the general principles of Chemistry and of the more important elements. Special attention is given to the Chemistry of the Metals. The Periodic Law is followed throughout. The lectures are fully illustrated; the class is divided into several smaller sections for recitations. Freshmen class, five times a week throughout the year.

2. **General Chemical Laboratory.** The laboratory work accompanying General Chemistry consists of experiments which are largely quantitative, and which are intended to teach stoichiometrical relations from the first. Freshmen class, one afternoon a week throughout the year for E. M. and C. E.; three afternoons a week for one term in C. & M. course.

3. **Qualitative Analysis.** For students in the course in Mining Engineering. Tests and separation of the more common metallic elements and some of the acidic elements; analysis of solutions containing phosphates; alkaline solutions; insoluble substances; alloys; natural products, slags, etc. Sophomore year, First and Second terms, two afternoons and one hour lecture a week.

4. **Quantitative Analysis.** For students in the course in Mining Engineering. Juniors, throughout the year; two and a half, one and a half, and two afternoons a week in the respective terms. The work begins with a study of the balance. This is followed for

half of the time, by accurate gravimetric analysis; first on pure soluble salts, then on natural products (dolomite, clay); then by accurate volumetric analysis (acidimetry, alkalimetry, iron, by the permanganate method). As samples of technical work the wet assays as practiced in the West are studied, during the latter half of the course.

7. **Physical Chemistry.** A short course designed mainly as an introduction to the various kinds of chemical equilibria met by the metallurgist. Sophomore year, two lectures a week, Third term.

8. **Electrochemistry.** A theoretical introduction, followed by applications. Includes, in addition to the work outlined in course 3, testing of wet and dry reagents for small amounts of impurities; analyses of various kinds of bullions, slags, mattes, and other metallurgical products. Furthermore, the student will be required to do parallel reading, to hand in written reports on certain special topics in Qualitative Analysis. Junior year; Second term, three lectures and one afternoon a week; Third term, two lectures and two afternoons a week.

9. **Quantitative Analysis.** For students in Metallurgy, Sophomore year. The equivalent of three afternoons and two lectures weekly throughout the year. An extended study of the balance, methods of weighing, and calibration of instruments serves as an introduction to the work. Pure salts are then carefully analyzed, gravimetrically and volumetrically. The Third term, Sophomore year, is devoted to the study of certain technical methods in vogue in the West. The student is required to analyze several igneous rocks, giving him an opportunity to study in detail the methods outlined by Hillebrand in Bulletin 176 of the United States Geological Survey, and in Washington's "Rock Analysis." One term is devoted to iron and steel analysis. Junior, two terms; Senior, one term.

10. **Chemical Memoirs.** Carefully prepared abstracts of current articles or of special subjects prepared by the students. One hour a week in the Second term Junior year is taken for the discussion of these abstracts.

11. **Electrochemical Analysis.** In the Senior year a short course in the theory and practice of Electrochemistry to analytical work is given for students who have had all the previous work.

Physics.

Professor McRAE; Mr. COOK.

1. **Elementary Mechanics.** This subject includes the study of the simple machines and the fundamental principles of mechanics and hydrostatics. Lectures illustrated by experiments and recitations. Sophomore, Second term, two times a week. Text-book: Loney's Mechanics and Hydrostatics.

2. **Electricity and Magnetism.** Lectures and recitations three hours a week during the Second term. This course is designed as an introduction to the study of Electricity and Magnetism. Text-book: S. P. Thompson's Lessons in Electricity and Magnetism.

3. **Laboratory Work in Electricity and Magnetism.** Three afternoons a week throughout the year.

4. **General Physics.** The study of Advanced Physics is taken up during the third term of the Sophomore year, and continued during the First term of the Junior. The Sophomores study kinematics, statics, kinetics, and the mechanics of fluids during the first part of the term, and conclude with the subject of Heat. The study of heat includes an introduction of thermodynamics. Particular attention is paid to harmonic motion as the basis for the study of the subjects of sound, light and alternating currents of electricity.

During the First term of the Junior year the study of Electricity and Magnetism is taken up. Such subjects as static electrification, potential, quantity, capacity, resistance, induction, impedance, inductive capacity, electric waves, etc., are studied. During the latter part of the term the reflection, refraction, diffraction and interference of Sound and Light are studied. The entire course is illustrated by lecture experiments and supplemented by work in the laboratory. Five times a week. Text: Watson's General Physics.

5. **Laboratory Work in Mechanics, Sound, Light, Heat, Electricity and Magnetism.** In the laboratory, the work is quantitative and aims, as far as possible, to instruct the student in the methods of physical measurement and the derivation of relations between the quantities measured. Emphasis is laid upon the derivation of physical laws rather than the verification of them. Required of Sophomores two afternoons a week during the Third term, and of Juniors two afternoons a week during the First term.

6. **Thermodynamics.** A short course in Theoretical Thermodynamics is followed by a study of boilers, furnaces and heat engines, standard types of safety and tubular boilers, chimney and mechan-

ical draft, pumps, heaters, etc.; steam, gas and gasoline engines are studied. Recitations and lectures are supplemented by the equivalent of one afternoon a week in the steam laboratory, where practice is had in operating and indicating engines; measuring chimney draft, boiler evaporation and the calorific value of fuels. Junior year, Second term, five times a week. Laboratory, one afternoon a week.

7. **Dynamo Machinery.** During the Third term the Juniors meet three times a week for discussion of direct current dynamos and motors. This course includes a discussion of the magnetic circuit of dynamos and motors, with methods of connecting for operation in series and parallel; characteristic curves, methods of testing dynamos and motors, etc.

8. **Alternating Current Machinery.** The Seniors meet five times a week during the first term for the study of Alternating currents and Alternating Current Machinery. Typical single and polyphase generators, synchronous and induction motors, stationary and rotary transformers, are studied; and the effect of frequency, induction and capacity upon the impedance of the circuit are studied by the graphical and analytical solution of numerous problems in transmission and distribution.

9. **Electrical Transmission.** During the latter part of the First term the class in alternate current machinery begins the study of the Electrical Transmission of energy and continues this subject three times a week during the Second term. The course includes the continuous current circuit, single and polyphase alternating current transmission, series and parallel distribution, design of the conducting system, overhead and underground construction, etc. Lectures and recitations supplemented by one afternoon a week devoted to working out electrical problems.

10. **Dynamo Laboratory.** The work in the dynamo laboratory is begun in the Third term of the Junior year and continued two afternoons a week during the First term of the Senior year. The work includes calibration of instruments, characteristic curves, efficiency tests of dynamos, motors, transformers, etc., line resistance, capacity inductance, impedance and insulation measurements. Laboratory Text-books: Stewart & Gee, Vol. I, Elementary Practical Physics, and Vol. II, Electricity and Magnetism; E. L. Nichols, Laboratory Manual, Vol. I and Vol. II; Kohlrausch, Physical Measurements; Carhart & Patterson, Electrical Measurements; Ostwald, Physico-Chemical Measurements.

Elective Work.

12. **Theory of Electricity and Magnetism.** A mathematical treatment of the subject. Three hours a week during the First and Second terms. Open to graduates and to advanced undergraduates. Text-Book: F. E. Nipher's Electricity and Magnetism.

13. **Alternating Currents.** An analytical and geometrical treatment of the subject. Two hours a week during the First and Second terms. Open to graduates and to advanced undergraduates.

14. **Dynamo Design.** This course includes the design of dynamos, motors, alternators and transformers. Three afternoons a week during the Third term. Open to those who have completed courses 8 and 9.

Civil Engineering.

Professor HARRIS; Mr. CLARKE; Mr. BARTLETT; Mr. PERKINS; Mr. WRIGHT.

1. **Surveying.** The Sophomore work consists of a course in General Surveying, including the use of the transit, the level and the solar compass. Areas surveyed are required to be plotted to scale and the drawing completely finished in all its details. Following this work city surveying, topographic methods and mine surveying are taught. First term, three times a week.

1a. **Field Practice.** The Sophomore students have Field Practice two afternoons a week. This is supplementary to the text-book work.

1b. **Topography.** Between the Second and Third terms one week is given to field work in Topographic Surveying. The students are divided into parties, each with a captain, and to each is assigned an area to be covered. From notes so taken the Junior Civil Engineering students are required to produce a finished togographic map.

1c. **Geodesy.** In this course the student is taken into the higher problems in Surveying, including Engineering Astronomy, base line measurements and precise leveling. Sophomore Civil Engineering course, Second term, three times a week.

1d. **Geodesy, Computations and Drawings.** In this course the student is exercised in mapping and platting in the determination of areas and partition of land, and learns to systematically work up the problems in Geodesy.

2. **Lines of Communication.** This course covers the mathe-

matical problems in the location of railways, highways and canals, and in setting out and estimating earthwork, laying out track, locating tunnels, etc. The text-book is supplemented by field practice one afternoon a week for students in Mine Engineering, and three afternoons for those in Civil Engineering. Sophomore, Third term, three recitations a week.

3. **Railway Economics.** This course treats of the economic principles of railway location and improvements of old lines as affected by curvature, grades, first cost, cost of maintenance and traffic.

4. **Masonry Construction.** This course treats of the economic properties of building stone, brick and cements; the proportioning, mixing and placing of mortars and concrete; preparation of foundations and strength and stability of masonry structures, including dams, piers, abutments, retaining walls and arches. Juniors, First term, two times a week.

4a. **Cements and Concretes.** In addition to laboratory work in other departments, students make the standard tests of cements and determine the most economic proportions for concrete of various qualities of sand, gravel and broken stone.

5. **Roads and Pavements.** A course discussing the principles involved in the location and construction of highways, streets and roads, and the merits of the various methods of paving. Juniors, in Civil Engineering, First term, three times a week.

6. **Masonry Designs and Concrete Steel.** This course treats of the higher structures in Masonry, including arches, dams, portals, etc., and the art and theory of "concrete steel" structures. The student is required to prepare drawings and specifications of as many such structures as the time available will permit.

7. **Hydraulics.** A course covering the theory of Hydrostatics and of Hydraulics; determination of experimental coefficients and their use as applied to the flow of water through orifices, weirs, pipes and canals. Also the theory of hydraulic motors and dynamic pumps. Juniors, Third term, five times a week.

8. **Water Supply.** A course covering the selection, impounding, transporting and delivering of a water supply to cities and towns.

9. **Sanitary Engineering.** A course treating of the necessary precautions for the protection of water supply from pollution and the methods available for the purification of contaminated supplies; the principles involved in the collection and disposal of sewage and storm waters. Seniors, Second term, five times a week.

10. **Irrigation.** A short course designed to bring out the essential details of the location of canals, headworks, impounding reservoirs and supplementary work. Seniors, Third term, three times a week.

11. **River and Harbor Improvements.** A course treating of the control of flood water, protection of river banks, improvement of navigation and protection and improvement of harbors.

12. **Frame Structures.** This course, designed alike for students in Mining and Civil Engineering, treats of general methods of determining stresses in such structures as single span bridges, roof trusses, towers, derricks and of the design of individual members, as posts, beams and rods, to carry specified stresses. Seniors, First term, five times a week.

13. **Bridges (Higher Structures).** This course is for students in Civil Engineering only and carries them into the study of arches, cantilever, swing and suspension bridges. Senior Civil Engineering. Second term, five times a week.

14. **Drawing and Graphics.** Students in Civil Engineering are required to complete a topographic map during the Junior year. They are further exercised in the elementary problems of Graphic Statics as applied to single-span bridges and roofs and to masonry structures. Junior Civil Engineering students, First term, two afternoons; Second and Third terms, one afternoon.

15. **Engineering Designs.** The Senior students in Civil Engineering devote five afternoons a week during the First and Second terms to designs in some line of engineering, such as steel bridges, concrete steel structures, water supplies, sewage systems or the like.

16. **Special Investigations (Thesis).** In the Third term, Senior year, all graduating students give five afternoons a week to original investigation in some subject which they select, with the approval of the Faculty.

17. **Compressed Air.** A course covering the laws governing the compression and piping of air and the application of compressed air to the industries. Seniors, Second term, twice a week.

18. **Contracts and Specifications.** A course covering the general principles involved in the drawing up of contracts, and the preparation of specifications for the control and guidance of contractors and engineers. Seniors, Third term, twice a week.

19. **Astronomy.** A course in general astronomy for students in Civil Engineering. Second term, twice a week.

Mining Engineering.

Professor DRAPER.

1. **Mechanics.** A course in Analytic Mechanics, including Statics and Kinetics, with their application to engineering problems. Inertia, moment of inertia, work, energy, force, friction, etc., are treated at some length. Recitations, supplemented by lectures, five times a week during the First term. Text: Wright's Elements of Mechanics.

2. **Mechanics of Materials.** A course covering the stresses induced in rigid bodies by the application of external forces and the design of members to withstand same; a discussion of the materials used in Engineering Construction; the use of empirical coefficients and factors of safety, and training in the intelligent use of a Mechanical Engineer's Book of Tables, etc. Juniors, five times a week during Winter term.

3. **Ore Dressing.** A course on the principles, methods and mechanical appliances in use to-day for crushing, classification and concentration of all important ores; preparation of coal; magnetic separation. Text-Book: Richard's Ore Dressing. Juniors, E. M. and C. M. courses, First and Second terms, three times a week.

3a. **Ore Dressing Laboratory.** The object is to give the student experience in the more common methods of ore dressing, treated in the theoretical discussions, and to afford him practice in the application of principles to the production of useful results. Juniors, E. M. and C. M. courses, First term Saturday forenoon.

4. **Mining.** Lectures on prospecting, drilling and well-boring, exploitation, methods of extraction, blasting, transportation, drainage, ventilation, lighting, accidents, hygiene, mining law, sampling, examination and valuation of mines, and quarrying. Practical problems, projects and reports on visits of inspection, constitute features of the course. An excursion is taken to a mining district at end of Second term. Seniors, Second and Third terms, three hours a week. Continued by 5.

5. **Mining Machinery.** A course of lectures on Mining Machinery in use to-day, with comparisons of the advantages and disadvantages, under various conditions, of the different machines. The application, in general, of problems in mechanical engineering to Mining.

6. **Mine Surveying.** Some additional matter, such as methods adapted to special cases, with problems involving the principal

conditions encountered in Mine Surveying are included in the course in Mining. The subject of Mine Surveying constitutes part of the regular course in surveying. An excursion to the Joplin district for Mine Surveying is a part of the work. Junior year.

7. **Mill Design.** Involves the designing, making of specifications, and execution of working drawings of concentrating mills. Seniors, First term, two afternoons a week.

8. **Mining Design.** A similar course in the design of mining plants, as for hoisting, drainage, ventilation, transportation, etc. Seniors, Third term, one afternoon a week.

Geology and Mineralogy.

Professor LADD; Professor DRAPER; Assistant Professor GRISWOLD; Mr. WILSON.

Lectures and laboratory work, supplemented by excursions in the field, make up the courses in this department, which are as follows:

1. **Crystallography.** This is taught as an introduction to the course of Mineralogy, and consists of lectures on the general principles of the subject, with a careful study of the forms of different systems, and the different methods of notation. The study of models, drawings and natural crystals constitute an important part of the course. Sophomores, Second term, as a part of Mineralogy.

2. **Mineralogy.** This course consists of lectures and laboratory work. It involves the study of the important metaliferous and rock-forming minerals. Blow-pipe determination is made use of, and the student is taught also, as far as possible, to recognize the minerals through their various characteristics without the use of qualitative analysis and blow-pipe work. Moses' Mineralogy and Blow-pipe Analysis, or Dana's Text-book of Mineralogy may be used as a text. Sophomores, Second and Third terms, two afternoons a week.

3. **Lithology.** The practical determination of rocks is treated as a continuation of Mineralogy, and this course includes the microscopic study of rocks; the microscopic study of rock and crystal sections, and the preparation of such sections by the student. Lectures and laboratory work, Junior year.

4. **General Geology.** This is a lecture course devoted to the principles of general and Economic Geology. It discusses the evolution of the earth, its present condition, and the processes which

have modified its crust and surface. Owing to its economic importance special attention is paid to Structural Geology, and the student is taught to make and to interpret geological maps and sections, covering a great variety of folding and faulting of strata. This course is closed with a discussion of the general features of the Geology of the United States. The students in this course engage in field work near Rolla, study special localities of interest within reach of a day's travel, and have an excursion to the Iron Mountain district to study more varied phenomena and to gain a wider understanding of practical geology. Summer school work in more distant fields complete the regular work in Geology. Juniors, three hours a week throughout the year.

5. **Economic Geology.** This is a series of lectures dealing with the occurrence, origin and distribution of ores, clays, building stones, gems, water supply and other products of economic value from the different geological formations. The characteristics and genesis of ore deposits are carefully considered. The members of this class visit locations near Rolla of economic importance, studying iron, lead, coal, clay, building stones, etcc., besides making an excursion to the zinc-lead district of Joplin. The use of Reed's Economic Geology of the United States is required of the student. Seniors, twice a week, First and Second terms, and five times a week, Third term.

Metallurgy.

Professor PACKARD; Mr. SELTZER; Mr. WASH.

The work in this department is designed to give students a thorough training in all branches of Metallurgy. It is recognized that a school cannot give students, in the brief time at its disposal, that skill which comes from long practice, but it is the aim of the department to give such training in the fundamental principles and their application, that students may become useful immediately on their entrance into the actual practice of their chosen profession. An important feature of the instruction in this department is experimental investigation in the metallurgical treatment of various ores. For convenience in recording and reporting, the subjects following are classified under the general letter M, with necessary subdivisions:

M-1. **Fire Assaying.** Scorification and crucible assays of gold and silver ores, assay of copper mattes, corrected assays, assay of bullion, fire-assay of lead ores.

The laboratory course is supplemented by two lectures a week. The nature of the processes is thoroughly explained and practical difficulties discussed. Three afternoons a week, Second term, Junior year. Qualitative Analysis is required for this course. Text-book: Lodge's "Notes on Assaying."

M-2. **General Metallurgy and Metallurgy of Iron.** Begins with general principles, including properties of metals and alloys, fuels, fluxes, calculation of charges, general study and classification of furnaces, followed by a study of proceesses employed for the production of cast iron, wrought iron and steel. Reference Books: Roberts-Austin's Introduction; Howe's Metallurgy of Steel; Campbell's Steel. Juniors, Third term, five hours a week. The Seniors of the C. E. course are given special work.

M-3. **Metallurgy of Lead and Silver.** Lectures and recitations. Hoffman's Metallurgy is used as a text for lead and desilverization of base bullion, and Collin's Metallurgy of Silver for wet processes of silver extraction. Seniors, E. M. and Metallurgy courses, First term, five hours a week.

M-4. **Metallurgy of Copper, Nickel, Mercury, Tin, Antimony.** Peter's Metallurgy of Copper is used as reference book and is followed by lectures on the other metals named, with Schnabel's Metallurgy for reference. Seniors, E. M. and Metallurgy course. Second term, four hours a week.

M-5. **Metallurgy of Gold and Zinc.** Lectures and recitations. Text-book: Rose's Metallurgy of Gold. For reference on zinc, Ingall's Metallurgy of Zinc and Cadmium. Seniors, E. M. and Metallurgy courses, Third term, four hours a week.

M-6. **Constitution of Alloys.** Lectures dealing with the theoretical and practical considerations that influence the structure and properties of alloys of different types. Juniors Metallurgy course, two hours a week, Second term.

M-7. **Electrometallurgy.** Lectures are given covering the Electrometallurgical processes that are in use. Efficiency and engineering calculations based on this and the preceding required courses. Senior Metallurgy course, First term, two hours a week, and one afternoon of laboratory work. Text-book: Borcher's Electrometallurgy, and current literature on the subject.

M-8. **Metallurgical Organization.** The course briefly takes up the principles of organization, and the duties of officers and accounting force of a metallurgical plant. The outline shows the extent of the course. Organization of companies and working forces,

management, superintendence, skilled and unskilled labor. Then following this, the constitution of capital, stocks, bonds, dividends and profits. Senior, Metallurgy course, four hours a week, Second term. Text-book: Conyngton on Corporation Management.

M-9. Metallurgical Accounting. Covers the book-keeping and accounting necessary in a Metallurgical works. It deals with costs and expenses of operation of ore supply, fuel, fluxes, by-products and markets, and in addition, sinking funds, insurance, deterioration and repairs, interest, balance sheets and annual statements. Senior, Metallurgy course, Second term, three hours a week lectures, and one afternoon practice work.

M-10. Metallurgical Problems. These problems aim to cover the common ones that the Metallurgist meets in practicing his profession. They are carefully chosen so as to represent as typical cases as possible. Senior, Metallurgy course, Third term, four hours a week. Prof. J. W. Richard's "Metallurgical Problems" will be used as a text.

M-11. Memoirs. The student in the Metallurgy course is required to do a considerable amount of technical reading in German and English. Carefully prepared abstracts of valuable current articles are presented and read by the students themselves. These articles are chosen by reason of having special value along chemical and metallurgical lines. Report days, one hour a week, First and Third Terms. Senior, Metallurgy course.

M-12. Conference. Laboratory course M-14 is accompanied by weekly conferences. These are of great value to the student, and aid him materially in getting the full value from his laboratory work.

Laboratory Work.

M-13. Metallurgical Laboratory. Juniors' Metallurgy course, Third term, one afternoon. This course aims to familiarize the student with the use of calorimeters and pyrometers, and their calibration. Some insight is given into the ordinary methods of Metallurgical investigation, and the methods of measurement, that a metallurgist should know how to conduct. Text-book: Howe's Laboratory Notes.

M-14. Metallurgical Laboratory. Tests of ores by cyaniding chlorination, amalgamation, lixiviation, roasting in the reverberatory and smelting in the blast furnace. Howe's Metallurgical Laboratory Notes and Lodge's Assaying are used as laboratory manuals.

Seniors, First and Second terms, Saturdays. M. E. and Metallurgy courses. Weekly conference one hour a week.

M-15. Metallography. Study of the miscrostructure of iron and steel, and effects of heat treatment. Seniors M. E. course, Second term, one afternoon a week.

M-16. Metallography. Similar to M-15, but covering more ground, and including some special experimental work. To be preceded by M-6. Senior Metallurgy course, Second term, two afternoons a week.

M-17. Metallurgical or Electrometallurgical Designing. This work has special reference to the designing and proportioning of various types of furnaces for special duties and conditions. It will call for a clear conception of Metallurgical principles. The alternative, Electrometallurgical designing will cover the design and estimates for a copper or copper-nickel refinery. Senior Metallurgy course, Third term, two afternoons a week.

Shop Practice, Drawing and Designing.

Assistant Professor BOWEN; Mr SMITH.

1. Wood Work. The work in this course begins with simple exercises in planing and marking with the gage and knife. It continues until the pupil has become thoroughly familiar with the use of the plane, level, square, gage and knife. He is then given graded exercises covering rip and cross-cut sawing and sawing to a "fit." Following this comes work at joints designed to show the different methods of construction, glue joints, doweling, dove tails and braces. This work is supplemented by talks on the tools and work in hand, and each student is required to pass a written examination on notes covering the classification and use of hand tools and accessories.

Wood turning follows the above work, and is designed to familiarize the student with the use of the lathe. He is given graded exercises, beginning with a plane cylinder, embracing curves of various kinds and sizes, and ending with face plate work in rings, balls, goblets, vases, etc. On all the preliminary work students are required to use the tools in such a way as to make the use of sand paper unnecessary.

A final part of this course is cabinet making, designed to give the student work on the planer, scroll-saw, mortise machine, etc. After becoming familiar with the different machines pattern-making is begun. The purpose of this work being to teach the stu-

dent to make representative types of patterns from which castings may be made. The principles of the shrink rule are explained and drawings, such as are used in manufacturing plants, are made in order to teach the use of the finish marks, core boxes, and all conventional signs. All work is done from drawings. Freshmen year, two afternoons a week throughout the First and Second terms, and one afternoon a week the Third term.

2. **Forge Work.** This course begins with simple exercises in drawing, upsetting, bending, twisting, punching and welding. The work gradually becomes more difficult, such as making eye bolts, chains, tongs, etc., followed by ornamental work, in making benches, umbrella racks, waste baskets, etc. Tool making is then begun by making screw drivers, hammers, chisels, and a complete set of lathe tools, which will be used later in the machine shop. This work is fully illustrated by drawings and lectures on the subject, covering the properties of the different grades of iron and steel. Great care is exercised to make the student familiar with the best grade of steel to be used for any required purpose, and the correct shape and temper necessary for the best work in cutting iron, steel, brass, stone, etc. Sophomore year, First and Second terms, two afternoons a week.

3. **Metal Work.** This course begins with chipping to a line, filing to a dimension and scraping to a surface plate. Machine operation is then begun, the principles and uses of the drill-press, lathe, planer, shaper and milling machine are taught by lectures followed by practical work at each machine. After a reasonable time skill is attained in operating the various machine through a course of graded exercises. Students are required to build complete machines designed by upper classmen or by the Instructor. In this work use is made of the vernier micrometer, thread micrometer and gear-tooth calliper. The degree of accuracy thus acquired enables the student to use eye and hand in unison, and is a lasting benefit in teaching exactness in statement and measurement. Sophomore year, Scond term, one afternoon a week.

4. **Drawing.** Freshmen devote six hours a week to exercises in ruling, line-shading, etc., calculated to teach the use of drawing instruments, followed by a thorough drill in free-hand lettering, pencil sketching and drawing from models, scaled machine and architectural drawings from detail plates, tracing and blue printing.

5. **Descriptive Geometry.** The usual text-book work is reinforced with daily blackboard exercises in presenting the projections of familiar objects, intersections of plane and curved surfaces, sections, developments, etc. The work includes perspective and shades and shadows. The afternoons in the drawing room are devoted to the solution, in neat form, of the more elaborate exercises. Freshman year, Second and Third terms, two afternoons a week, consisting of half hour recitations and two and a half hours at the drawing board.

6. **Drawing and Graphics.** The student is exercised in problems in Graphic Statics, as applied to single span bridges and roofs and to masonry structures.

English.

Mr. Scott.

There is a growing appreciation of the value, in practical affairs, of the ability to use language with ease, clearness and forcefulness. The importance of English Composition as a mental gymnastics is being acknowledged as never before, and, more and more, instructors in technical schools are recognizing the fact that it is an essential part of an engineer's education.

All Freshmen in this Institution are required to write throughout the year, short daily, and long fortnightly themes. This work is carefully criticised by the Instructor, corrected by the student and returned to the former as an evidence that the student has profited by the criticisms.

1. **Rhetoric.** Lectures, recitations and theme work. This course is designed as a continuation of the subject as taught in the high schools of the State. Freshmen, five times a week, First and Second term. Text-book: Scott and Denney's Composition.

2. **English and American Literature.** This course embraces a study of the history and development of English literature with detailed work on the masterpieces of British and American authors. Freshmen, four times a week, Third term. Text-book: Pearson's Principles of Expression.

3. **Themes.** Two themes of not less than eight hundred words each are required each term. These themes are criticised and corrected in the same manner as indicated for the Freshmen themes. Sophomores, two times a term throughout the year.

Modern Languages.

Mr. WILKINS.

The great quantity and worth of the technical literature in the French and German languages, added to their value as elements of liberal culture, make at least a reading knowledge of them practically a necessary part of an engineer's education. The instruction in each language is designed to present the grammatical structure and the pronunciation of the tongue, to give some acquaintance with the masterpieces of its literature, and to confer such facility in translation as will enable the student to read with ease the language in both its literary and its scientific uses.

1. **German.** Introductory Lessons: Grammar and composition, scientific reader, and scientific journals and magazines. Five times a week throughout the Sophomore year.

2. **French.** Grammar, composition, scientific reader, current scientific journals and magazines. Five times a week throughout the Sophomore year.

3. **Spanish.** The growing demand for Mining Engineers and Metallurgists in South and Central America, in Mexico and the Philippines, where a knowledge of Spanish is almost an essential qualification, has been met by the establishment of a course in this language in the School of Mines and Metallurgy. The natural or conversational method is followed exclusively. Garner's Spanish Grammar, Marion and Garenne's "La Introduccion a la Lengua Castellana," Kroh's "How to Think in Spanish" are all used, as well as other texts. The object is to give the student facility in the every-day speech of the people. Five times a week throughout the Sophomore year.

With the consent of the Faculty, students may elect Spanish as the required modern language.

LIST OF STUDENTS—SESSION 1906-7.

Enrollment by Departments.

Graduate Department.

Name.	Department.	Postoffice.	County.
UNIVERSITY FELLOWS.			
EDUCATION.			
Ridgeway, George Walter. A. B.	T. C.	Clark	Randolph
ENGLISH.			
Kahn, Theckla, A. B.	Acad	Columbia	Boone
POLITICAL SCIENCE AND PUBLIC LAW. (Honorary).			
Otis, Merrill Edward, A. B...	Acad.	Hopkins	Nodaway
ROMANCE.			
Hamilton, Theodore Ely, A. B. A. M.	Acad.	Fredonia, *N. Y.*.....	
ZOOLOGY.			
Steele, Mary Isabelle, B. S., A. M..	Acad.	Columbia	Boone
UNIVERSITY SCHOLARS.			
GERMAN.			
Harrison. Jane Annetta, A. B., B. S. in Ed.....	Acad.	La Plata	Macon
HISTORY.			
Hughes, Uriel Wright, A. B...	Acad.	Coalgate, *I. T.*.....	

GRADUATE DEPARTMENT.—Continued.

Name.	Department.	Postoffice.	County.
	LATIN.		
Barnett, Mary Jessie, A. B., A. M..	Acad.	Columbia	Boone
Gordon, Eleanor Madge, A. B.	Acad.	Columbia	Boone
	MATHEMATICS.		
Liepsner, Adriana May, A. B., B. S. in Ed.....	Acad.	Kansas City	Jackson
	ROMANCE.		
Imbert, Louis Ettienne, A. B..	Acad.	St. Joseph	Buchanan
MISSOURI COLLEGE UNION SCHOLARS.			
	LATIN.		
Boyd, Laura Alice, A. B. (Tarkio College)	Acad.	Red Oak, *Iowa*.....	
	POLITICAL SCIENCE AND PUBLIC LAW.		
Primm, Clarence J., A. B. (Park College)	Acad.	Lawrence, *Kan*.....	
	ROMANCE.		
Harris, Joseph Oden, A. B. (William Jewell College)...	Acad.	Liberty	Clay
	ZOOLOGY.		
Gross, Oresta Carroll, A. B. (Missouri Valley College)...	Acad.	Columbia	Boone
Other Graduate Students.			
Alexander, Carter, A. B., B. S. in Ed.....	T. C.	Paris	Monroe
Anderson, Harvey Winfred, A. B....	Acad	Goodwater	Iron
Baldwin, Robert Lee. B. S. in E. E.	Eng.	Kansas City	Jackson
Bernard, Luther Lee, A. B...	Acad.	Pierce City	Lawrence

GRADUATE DEPARTMENT.—Continued.

Name.	Department.	Postoffice.	County.
Beswick, George Wharton, A. B.	T. C.	Liberty	Clay
Blair, Anna Lou, A. B.	Acad.	Springfield	Greene
Borger. Robert Lacy, A. B., A. M.	Acad.	Lake City, *Florida*	
Brack, Gilbert Sterling, B. S. in E. E.	Eng.	Little Rock, *Ark.*	
Breed, Mary Bidwell, A. B., A. M., Ph. D.	Acad.	Columbia	Boone
Brooks, Charles, A. B., A. M.	Acad.	Dunham, *N. H.*	
Brown, John Hart, A. B., A. M.	Acad.	Fulton	Callaway
Campbell, Mary Ellen	Acad.	St. Joseph	Buchanan
Carmack, James A., A. B.	T. C.	Cora	Sullivan
Chandler, William Henry, B. S. & M. S. in Agr.	Agr.	Columbia	Boone
Chapman, Abel Hugh, B. S. in Agr.	Agr.	Newton, *Miss.*	
Childers, Lucius Franklin, B. S. in Agr.	Agr.	McFall	Gentry
Clagett, Edith J., A. B.	T. C.	Dallas, *Texas*	
Clifton. Charles Minton, B. S. in E. E.	Eng.	Brookfield	Linn
Clothier, Robert Waitman, B. S. & M. S. in Agr.	Agr.	Paxico, *Kans.*	
Cochel, Mary Alice, B. S. in Ag., B. S. in Ed.	Agr.	Columbia	Boone
Coe, Denzil Worrell, B. S. in C. E.	Eng.	Elmhurst, L. I., *N. Y.*	
Cole, Charles Arthur, B. S. in Agr.	Agr.	Quaker	Washington
Conrad, Mrs. Sarah E., A. B., A. M.	Acad.	Kansas City	Jackson
Cosby, Byron, A. B.	T. C.	Mound City	Holt
Crowell, Winifred Gardner, Ph. B., Ph. M.	Acad.	Barrington, *Nova Scotia*	
Crumbaugh, Lucy Cornelia, B. S. in Ed.	T. C.	Columbia	Boone
Denny, Omer, B. S. in M. E.	Eng.	Kearney	Clay
Diehl, Harry Everett, B. S. in E. E.	Eng.	Clinton	Henry
Dobson, Gilbert, B. S. in C. E.	Eng.	Manila, *P. I.*	
Doneghue, Ray Claude, B. S. in Agr.	Agr.	Columbia Station, *Ohio*	
Doughty, Job Marcus, B. S. in Agr.	Agr.	Columbia	Boone

GRADUATE DEPARTMENT.—Continued.

Name.	Department.	Postoffice.	County.
Driggs, Edwin Leroy, B. S. in C. E.	Eng.	Mound Valley, *Kans.*	
Dudley, Wray E., B. S. in E. E.	Eng.	Troy	Lincoln
Duncan, Dorsey Berry, B. S. in C. E.	Eng.	Columbia	Boone
Dyas, Virginia Bouchelle, A. B.	Acad.	Columbia	Boone
Ebright, Alpha Mills, A. B.	Acad.	Sterling, *Kans.*	
Edwards, William Westley, B. S. in M. E.	Eng	East Liverpool, *Ohio*	
Eitzen, Meta Theresa, B. S., A. M.	T. C.	Columbia	Boone
Eitzen, Hertha Amelia, A. B., A. M.	Acad	Columbia	Boone
Elliff, Joseph Dolivar, A. B., A. M.	T. C.	Columbia	Boone
Emerson, Frederick Valentine, A. B.	Acad.	Columbia	Boone
Faris, Clyde Homer, B. S. in M. E.	Eng.	Carrollton	Carroll
Fessenden, Charles Horace, B. S. in M. E.	Eng.	St. Louis City	
Floyd, Bayard Franklin, A. B.	Acad.	Marion, *Ind.*	
Goodson, John Virgil, A. B.	Acad.	New Cambria	Macon
Greene, Mrs. Mary E. Lewis, A. B.	Acad.	Columbia	Boone
Guthrie, Fannie Virginia, A. B.	Acad.	Columbia	Boone
Haggard, Homer Huston, B. S. in C. E.	Eng.	New York, N. Y.	
Harman, Robert V., A. B.	T. C.	Liberty	Clay
Harrison, John Scott, A. B.	T. C.	Bethany	Harrison
Haynes, Eu Stuart, A. B.	Acad.	Trenton	Grundy
Hays, William Henry, A. B.	Acad	Columbia	Boone
Hechler, Charles Henry, B. S. in Agr.	Agr.	Dalton	Chariton
Hitch, Arthur M., A. B.	T. C.	Cuba	Crawford
Hoff, Hans Jacob, A. B.	Acad.	Rexford, *Kans.*	
Horton, Henry Pomeroy, A. M.	Acad.	Columbia	Boone
Howard, Ida Elizabeth, B. L.	Acad.	Columbia	Boone
Howard, Walter Lafayette, B. S. in Agr., Ph. D.	Acad.	Columbia	Boone
Howe, Harley Earl, B. S. in Ed.	Acad.	Linneus	Linn
Jarvis, Clarence Sylvester, B. S. in C. E.	Eng.	Huntley, *Mont.*	
Jesse, Richard Henry, Jr., A. B.	Acad.	Columbia	Boone

GRADUATE DEPARTMENT.—Continued.

Name.	Department.	Postoffice.	County.
Johnson, George R., B. S. in Ed..	T. C.	Princeton ..	Mercer
Johnson, Isabel, A. B., B. S. in Ed....	Acad.	Columbia	Boone
Killam, David Edwin, A. B...	Acad.	Winfield ..	Lincoln
Kilmer, Harry Edmund, A. B..	Acad.	Yorkshire, *Iowa* ..	
Lewis, Mildred Durette, A. B., B. S. in Ed.	Acad.	Columbia	Boone
Liepsner, Frank Wright, B. S. in Ch. E.	Eng.	Kansas City	Jackson
Locke, Robert Hodge, A. B...	Acad.	Ft. Madison, *Iowa*	
Lockwood, Frank Leroy, B. S. in C. E.	Eng.	Columbia ..	Boone
Maddox, Edward Morton, B. S. in E. E.	Eng.	New London	Ralls
Major, John W. McG., A. B....	T. C.	California ..	Moniteau
Malsbury, Omer Elmer, B. S. in C. E.	Eng.	Joplin	Jasper
Martin, Charles W., B. S. in C. E.. ..	Eng.	Troy ..	Lincoln
Miller, Edwin Burch, A. B....	Acad.	Boonville	Cooper
Monroe, Walter S., A. B.....	T. C.	Albany ..	Gentry
Moody, Levi, Jr., A. B.....	Acad.	Columbia	Boone
Morlan, Ernest Earl, A. B., A. M. ..	Acad.	Garden City	Cass
Moss, Robert Franklin, B. S. in C. E.	Eng.	Manila, *P. I.*	
McCall, Clarence Field, B. L..	Acad.	Reform ..	Callaway
McCord, Charles Harvey, A. B., A. M. ..	Acad.	Atlanta, *Ga.* ..	
McDaniel, John Samuel, B. S. in Agr.	Agr.	Houstonia ..	Pettis
Norton, John Henry, B. S. in Agr.	Agr.	Greensburgh ..	Knox
O'Rear, M. Allen, B. S. in Ed..	T. C.	Boonville	Cooper
Organ, Minnie Katherine, A.M.	Acad.	Salem	Dent
Pemberton, Walker S., B. S. in Ed.	Acad.	Armstrong ..	Howard
Price, Lakenan Moss, A. B....	Acad.	Columbia ..	Boone
Querbach, Earl, B. S. in C. E..	Eng.	St. Louis City	
Reed, Howard Sprague, A. B..	Acad.	Washington, *D. C.*	
Robinson, Charles Edward, A. B.	Acad.	Joplin ..	Jasper
Robinson, Ernest Franklin, B. S. in C. E.	Eng	Winchester, *Va.* ..	
Sadler, Daniel Kennard, A. B..	Acad.	Boonville, *Ark.*	

GRADUATE DEPARTMENT.—Continued.

Name.	Department.	Postoffice.	County.
Schrenck, Louis John, B. S. in M. E.	Eng.	Brunswick	Chariton
Schultz, Charles, B. S. in C. E.	Eng.	Hannibal	Marion
Searcy, Laura Anita, A. B.	Acad.	Columbia	Boone
Seitz, William Kerlin, B. S. in C. E.	Eng.	Greenville, *Ohio*	
Simmons, Emma, A. B., B. S. in Ed.	Acad.	Berryville, *Ark.*	
Sisson, Stanley, A. B., B. S. in Ed.	Acad.	Columbia	Boone
Skidmore, Mark, A. B.	T. C.	Springfield	Greene
Spencer, Roy Everett, A. B.	Acad.	Ypsilanti, *Mich.*	
Swiggett, Douglas Worthington, A. B.	Acad.	Morrow, *Ohio*	
Thompson, Barton Robert, B. S. in Agr.	Agr.	Garrison, *Kans.*	
Thurston, Hollis Hendrix, B. L., A. M.	T. C.	Columbia	Boone
Tuttle, Floyd Wilkins, A. B.	Acad.	Columbia	Boone
Tyler, Eleanor Murdoch, A. B.	Acad.	St. Louis City	
Underwood, George Arthur, A. B., A. M., B. S. in Ed.	Acad.	Kansas City	Jackson
Walker, Mary Shore, A. B., A. M.	Acad.	Columbia	Boone
Wallace, Jacob H., B. S. in M. E.	Eng.	Altamont, *Ill.*	
Wayman, Harry Selwyn, B. S. in Agr.	Agr.	Kansas City	Jackson
Weese, William J., A. B.	T. C.	Athelstan, *Iowa*	
Weinbach, Mendel Penco, A. B.	Acad.	St. Louis City	
Welch, Austin Hubbard, B. S. in M. E.	Eng.	Columbia	Boone
Welch, John Gunn, A. B., A. M.	Acad.	Columbia	Boone
White, Robert E., A. B.	T. C.	Harrisonville	Cass
Williams, Charles Hardin, B. S. in M. E.	Eng.	Mexico	Audrain
Wronker, Charlotte, A. B.	T. C.	Marshall	Saline

College of Arts and Science.

Name.	Postoffice.	County.
Senior Class.		
Anderson, Oscar, Elwood	Columbia	Boone
Anderson, Harvey Winfred	Goodwater	Linn
Arnold, Charles	Ashland	Boone
Avery, Clara Martin	Troy	Lincoln
Bailey, Walter Elijah	Carthage	Jasper
Barkley, Grace	Henry	Ray
Battersby, Richard Stanley	Sedalia	Pettis
Bernard, Luther Lee	Peirce City	Lawrence
Brashear, Roma	Kirksville	Adair
Burruss, John Lewis	Columbia	Boone
Campbell, Mary Ellen	St. Joseph	Buchanan
Castle, Wilbur Francis	Holden	Johnson
Clift, Jay Gould	Hastings, *Okla.*	
Colvin, George Henry	Mendon	Chariton
Comstock, Clark Wesley	King City	Gentry
Covington, Ruth Olive	Dexter	Stoddard
Crouch, Menta Leslie	Columbia	Boone
Croy, Homer	Maryville	Nodaway
Dandy, Walter Edward	Sedalia	Pettis
Denslow, Ray Vaughn	Macon	Macon
Deuel, Elizabeth Ham	Millbrook, *N. Y.*	
Dooley, Marion Sylvester	Houston	Texas
Duncan, Mabel Helen	Columbia	Boone
Duval, Jennie Adeline	Harrisonville	Cass
Eastman, Fred Ward	Kansas City	Jackson
Eastman, Cecil Kiefer	Kansas City	Jackson
Ellis, Ralph Edgar	Kansas City	Jackson
Ferguson, James Taylor Jr.	Mokane	Callaway
Fitzgerald, Ruth	Sedalia	Pettis
Frakes, Susie Henderson	Columbia	Boone
Francis, Tim Alvano	Fargo, *N. D.*	
Frieze, Bessie	Seybert	Dade
Frieze, Vernon	Seybert	Dade
Galbraith, Elizabeth	Everton	Dade
Gibson, Wilber James	Grant City	Worth
Gleason, Frances Ethel	Lebanon	Laclede
Grace, Edith Emily	Emory, *Texas*	
Grady, Mary Elizabeth	Miami	Saline
Gruner, Caroline Frances	St. Louis City	
Hamilton, Elizabeth Agnes	Richmond	Ray
Harlan, Bertha Marion	Kansas City	Jackson
Hays, M. Ecel	Columbia	Boone
Hewitt, Dottie	Mt. Washington	Jackson
Hoffman, Dimmitt Heard	Sedalia	Pettis

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Hogan, Bert	Maryville	Nodaway
Horner, Glen Roy	Deepwater	Henry
Hostetter, Lily Sue	Bowling Green	Pike
Jesse, Caroline Elisabeth	Columbia	Boone
Jesse, Mary Polk	Columbia	Boone
Johnson, Helen Moore	Osceola	St. Clair
Killam, Susan Elizabeth	Winfield	Lincoln
Krabiel, Helen Mar	Kansas City	Jackson
Kurts, John Albert	Lockwood	Dade
Langenberg, Emma	St. Louis County	
Le Compte, Jewette Emeline	Cassville	Barry
Lhamon, Ruskin	Columbia	Boone
Lombar, Frank DeLeon	Columbia	Boone
Long, Clarence Columbus	Columbia	Boone
Maguire, Emily	Maplewood	St. Louis
Mahan, Daniel Dulaney	Hannibal	Marion
Marquis, Eva Malvena	Kansas City	Jackson
Megee, Otto Kent	Moberly	Randolph
Montgomery, Thomas Franklin	Bolckow	Andrew
Moreel, Anna	St. Louis City	
McCarroll, Ben	Bloomfield	Stoddard
McKay, Elmer Alexander	Knox City	Knox
McKee, Herbert Nelson	Zalma	Bollinger
Nicol, David A.	Carbondale. *Kan.*	
Northcutt, Ina Klosking	Columbia	Boone
Orr, Thomas Grover	Bosworth	Carroll
Patton, Lowell Russell	Clarksville	Pike
Pickett, Nettie Violet	Trenton	Grundy
Plunkett, Frank Willis	Columbia	Boone
Powell, Park	Hickman, *Ky.*	
Price, John Emmet	Harrisonville	Cass
Railey, Thomas Tarlton	Harrisonville	Cass
Robinson, Charles Edward	Joplin	Jasper
Robinson, Elizabeth	Columbia	Boone
Sebree, Samuel Boyd	Kansas City	Jackson
Secord, Lynn Newman	Memphis	Scotland
Semmes, Raphael Eustace Jr.	Memphis, *Tenn.*	
Shepard, Clyde Sheldon	Caruthersville	Pemiscot
Snyder, Edith Logan	Hannibal	Marion
Spangler, Kathryn E.	Clinton	Henry
Stewart, Faye Louise	Chillicothe	Livingston
Stickerod, Lydia Adeline	Rock Port	Atchison
Stine, Dan Gish	Tipton, *Ind.*	
Suddath, William Edward	Warrensburg,	Johnson
Taylor, Jean Elsie	Mt. Moriah	Harrison
Vance, Berenice Wilson	Marshall	Saline

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Walker, Mamie Clare	Columbia	Boone
*Wirth, Elsa	Munich, *Germany*	
Wolfrom, Anna	Kansas City	Jackson
Woodruff, Wm. Francis	Warrensburg	Johnson
Wright. Kirby Smith	Ashley	Pike
Yancy, Virginia Florence	Mexico	Audrain
Junior Class.		
Alford, Leland Barton	Vandalia	Audrain
Axline, Aaron Guy	Nevada	Vernon
Baker, Bettie May	Columbia	Boone
Bender, Charles Raymond	Kirkwood	St. Louis
Blythe, Mary Eva	Mexico	Audrian
Booth, Acena May	Columbia	Boone
Brasfield, Elizabeth	Unionville	Putnam
Briggs, Pearle Sarah	Carson, *Iowa*	
Brown, Buford Otis	Denton, *Texas*	
Bullard, H. Hays	Kirkwood	St. Louis
Campbell, Farris	Higginsville	Lafayette
Carr, Charles Frederick	Rucker	Boone
Cline, Bina Mae	Appleton City	St. Clair
Cole, Frances Cleveland	Columbia	Boone
Compton, Maud Fisher	Independence	Jackson
Cook, Jennie	Centralia	Boone
Cooper, May Belle	Gallatin	Daviess
Cowan, Robert Dinwiddie	Aldrich	Polk
Crews, John Jeter	Columbia	Boone
Cross, William Thomas	Columbia	Boone
Cross, Mary Thompson	Columbia	Boone
Crow, Clara	Columbia	Boone
D'Aubin, Gertrude	Lamar	Barton
Dimmitt, Bertha	Shelbyville	Shelby
Dungan, Hortense Corwin	Oregon	Holt
Dunn, James Arthur	Richmond	Ray
Dyer, Clyde Percy	Joplin	Jasper
Edmiston, Harry H.	Moscow, *Idaho*	
Edwards, Rachel	Centralia	Boone
Egelhoff, Clarence Raymond	Kansas City	Jackson
Elliott, Henry, Jr.	Whiteside	Lincoln
Ellis, William Orlando	Kansas City	Jackson
Eyssel, Henry Otto.	Kansas City	Jackson
Fair, Bessie S.	Trenton	Grundy

*Died in Columbia, Mo., Dec. 11, 1906.

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Faulkner, Elizabeth	Lamar	Barton
Fleming, Annie Laurie	Columbia	Boone
French Joseph Harvey	Lancaster	Schuyler
Fuller, Nevora Hester	Mound City	Holt
Funk, Eugene Edgar	Kirksville	Adair
Garnett, Fannie Neville	Belton	Cass
Haag, Paris G.	Henderson, *Ky.*	
Hardinger, Clerc Temple	Civil Bend	Daviess
Harvey, Hubert Marcellus	Marshall	Saline
Hearne, George McClure	Henderson, *Ky.*	
Heck, Gertrude	California	Moniteau
Helm, Katherine Mary	Hannibal	Marion
Holt, Althea Erna	Columbia	Boone
Hortenstein, William Henry	Alellen, *New Mexico.*	
Houts, Henry Hale	Warrensburg	Johnson
Husted, Carl Willis	Westfield, *Iowa*	
Ingram, Irvine George	Moberly	Randolph
Jackson, Frank Lenore	Worthington	Putnam
Jarrott, Robert Adams	Harrisonville	Cass
Johnson, Franklin Paradise	Brookfield	Linn
Johnston, Alice Ewing	Boonville	Cooper
Kampschmidt, August William	Gerald	Franklin
Kingsbury, Laura Mabel	Columbia	Boone
Kingsbury, Robert Leonard	Estill	Howard
Kiskadden, Andrew Henry	Clayton	St. Louis
Kochtitzky, David Wade	Cape Girardeau	Cape Girardeau
Koken, Ellen Augusta	St. Louis City	
Landers, Effie May	West Plains	Howell
Lee, Edgar Desmond	Laddonia	Audrain
Magruder, Don Gilmer	Hunter, *Okla.*	
Manning, Everett	Pineville	McDonald
Marshall, Della Esther	Kansas City,	Jackson
Mason, Frances	Mexico	Audrain
Matthews, Wm. Chaldee	Grant's Pass, *Oregon*	
Maupin, Oval Asbury	Bolivar	Polk
Miller, Edwin Lee	Norborne	Carroll
Miller, Nathan Braxton	Springfield	Greene
Moore, Mabel Margaret	Moberly	Randolph
Murry, Nettie Lee	Murry	Boone
McCoy, Susan Gertrude	Carthage	Jasper
McDearman, Mary Irwin	St. Louis City	
McPherson, John Edward	Martin City	Jackson
Nagel, Mary Louise	Independence	Jackson
Neff, Sherman Brown	Ridgeway	Harrison
O'Brien, Agnes	Independence	Jackson
Oliver, Allen Laws	Cape Girardeau	Cape Girardeau

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Oliver, William Palmer	Cape Girardeau	Cape Girardeau
Otis, Rachel Tamer Dora	Hopkins	Nodaway
Paine, Alice	Louisiana	Pike
Parker, Grace Lucile	Jefferson City	Cole
Parsons, Elmer Garrett	Harrisonville	Cass
Patterson, Elizabeth	Mexico	Audrain
Pickrell, Claude Dildine	St. Louis City	
Pickrell, Frances Gertrude	St. Louis City	
Powell, A. Tilden	Purdin	Linn
Price, Lacy Pittman	Brunswick	Chariton
Quinn, Effie Roberta	Columbia	Boone
Randall Merle	Poplar Bluff	Butler
Remley, Edgar Augustus Jr.	Columbia	Boone
Robnett, Ethel Bond	Columbia	Boone
Robnett, Mittie Virginia	Columbia	Boone
Rodes, Thula	Sedalia	Pettis
Roth, Norma Elizabeth	Unionville	Putnam
Schwabe, George Blaine	Columbia	Boone
Sedwick, Harry Fraser	Mt. Vernon	Lawrence
Shepard, Charlene	Warrensburg	Johnson
Sheppard, Arnot Lemuel	Doniphan	Ripley
Shively, Elva Byron	Henderson, *Ky.*	
Sigler, Melverne Wade	Bethany	Harrison
Singleton, Martha Racelle	Shelbina	Shelby
Snyder, Joseph Conway	Kirkwood	St. Louis
Spalding, Marion Elizabeth	Columbia	Boone
Stuckey, George Ernest, Jr.	St. Louis City	
Suddath, Mamie M.	Warrensburg	Johnson
Summers, James Stephen	Sharon, *Pa.*	
Tapley, Charlotte Abigail	Kansas City	Jackson
Trotter, Florence	Kansas City	Jackson
Trowbridge, Harold James	St. Louis City	
Turpin, Mabel Lee	Nevada	Vernon
Watkins, John Armstrong	El Paso, *Texas*	
Weeks, Eula Adeline	Rich Hill	Bates
Wharton, Mary	Columbia	Boone
Wilder, Beulah	Laddonia	Audrain
Williams, Charles Hamilton	Marble Hill	Bollinger
Wilson, Dockery	Bethany	Harrison
Withers, Jennie Hayne	Ft. Scott, *Kansas*	
Wood, James Madison	Boyer	Wright
Sophomore Class.		
Adams, Mattie Belle	Kirksville	Adair
Alderman, Wesley Edward	Macon	Macon
Alexander, Preston Carter	Gallatin	Daviess

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Alexander, Raymond Hooper	Lees Summit	Jackson
Allen, Edith Frances	Chicago, *Ill*	
Allen, Charles Boyd	Windsor	Henry
Avery, Samuel Demetrius	Troy	Lincoln
Bain, Susan	Ferguson	St. Louis
Barkley, Bennetta Maude	Mexico	Audrain
Barndt, Roy	Sabetha, *Kansas*	
Baugher, Albert Howard	Bucklin	Linn
Bayless, Daniel O.	Columbia	Boone
Beamer, Maude	Lamar	Barton
Bell, Mary Macrina	Monroe City	Monroe
Benton, Carolyn Belle	Higginsville	Lafayette
Blackmar, Rebecca Louise	Columbia	Boone
Bleish, Abe Stephen	McFall	Gentry
Booth, Herbert Radcliffe	Hamilton	Caldwell
Botts, Daisy Douglas	Columbia	Boone
Bowman, Henrietta Marr	Kansas City	Jackson
Bray, Willis Joseph	Fredericktown	Madison
Bridger, Irwin Lincoln	Hopkins	Nodaway
Brown, Helen Mar	El Reno, *Okla.*	
Burk, Ellen Idella	Edina	Knox
Caldwell, Minnie Wilford	Columbia	Boone
Carnes, Lillian Metcalfe	Kansas City	Jackson
Carr, Mary Eleanor	Excelsior Springs	Clay
Carter, Jesse Lee	Columbia	Boone
Case, Ines	Webster Groves	St. Louis
Casteel, Arthur Cain	Princeton	Mercer
Cho, Toda	Tochigi, *Japan*	
Claiborne, James Robert Jr.	St. Louis City	
Clay, Elizabeth Hope	Kansas City	Jackson
Clements, Hallie Elizabeth	Lockwood	Dade
Comby, Julius Hugh	Iantha	Barton
Compton, Ross	Dexter	Stoddard
Condict, Georgia Norine	Lamar	Barton
Cook, Eugenia Ethel	Columbia	Boone
Cook, Thomas Talmage	Jefferson City	Cole
Covington, Leta	Shamrock	Callaway
Crain, Henry Walter	Elmo	Nodaway
Cunningham, Ethel Belle	Columbia	Boone
Curry, William Ronald	Oregon	Holt
Curry, Alva Rhoten	Centerview	Johnson
Daily, Herley Smith	Brunswick	Charlton
Daily, Wallace Edgar	Brunswick	Charlton
Dale, Glenn H.	Blythedale	Harrison
Davenport, Sara Jeannette	Columbia	Boone
Davis, Sheldon Emmor	ElDorado Springs	Cedar

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Demand, Lafayette Stanley	Warrensburg	Johnson
Dick, Christine	St. Louis City	
Doane, George Earl	Joplin	Jasper
Dodson, Edith	Columbia	Boone
Douglass, Arden Heman	Los Angeles, *Cal.*	
Douglass, William Burr	Kansas City	Jackson
Driver, William Lloyd	Reeds	Jasper
Dryden, Leander Constantine	Drexel	Cass
Edwards, Charlie Richard	Lincoln	Benton
Edwards, Jessie McAllister	Columbia	Boone
Ellison, Susan Margaret	Maryville	Nodaway
Evans, Ernest Roper	Armstrong	Howard
Faller, Jessie Catherine Margaret	Brunswick	Chariton
Farley, Nellie Raymond	Peoria. *Ill.*	
Foglesong, Clara Magdalene	Columbia	Boone
Ford, Mary Frances	Columbia	Boone
Forgrave, Leon Paul	St. Joseph	Buchanan
Fulkerson, Etta	Kansas City	Jackson
Gardner, Clara	Joplin	Jasper
Garnett, Bessy May	Columbia	Boone
Garrison, Noble Lee	Bethel	Shelby
George, Bertha Mildred	Hamilton	Shelby
Gordon, Inez Dorothy	Chillicothe	Livingston
Grace, Frances Mabel	Columbia	Boone
Graves, Dorsett Vandeventer	Montgomery City	Montgomery
Grether, Ralph William	Greenfield	Dade
Haines, Frances Edith	Columbia	Boone
Hanna, Mary Alice	Trenton	Grundy
Hart, John Howard	Windsor	Henry
Hawthorne, Donald Sprague	Stanberry	Gentry
Hayes, William Arthur	Moberly	Randolph
Hayhurst, Miriam	Dunkirk, *N. Y.*	
Haynes, Fyrn	Warsaw	Benton
Hays, Eleanor Bessie	Columbia	Boone
Heibel, Grace Mae	Columbia	Boone
Helm, Florence	Hannibal	Marion
Hewitt, Arthur Mihan	Milwaukee, *Wis*	
Hicklin, Maurice H.	Lexington	Lafayette
Higbee, Paul Dysart	Kirksville	Adair
Hildebrand, Mary Blanche	Columbia	Boone
Hill, Johnson Davis	ElDorado Springs	Cedar
Hirsh, Karl	Chillicothe	Livingston
Hodge, John L.	Swinton	Stoddard
Holt, Frank Lee	Maryville	Nodaway
Howat, Lela Jean	Clarksville	Pike
Hudson, James Franklin	Columbia	Boone

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Hutcherson, Lena Clara	Vandalia	Audrain
Ingrum, Dora Louvenia	Columbia	Boone
Ingrum, Alpha Elverto	Columbia	Boone
Jarvis, Reynolds Fletcher	Columbia	Boone
Jewett, Wm. Orrington Jr.	Shelbina	Shelby
Johannes, Dot	Nevada	Vernon
Johns, Orrick Glenday	St. Louis City	
Johnson, Lillian	Columbia	Boone
Johnson, Roy Ivan	Princeton	Mercer
Jones, Ada Magee	Roanoke	Howard
Jones, Roxana Howard	Sorrel	Sullivan
Jones, Webster Newton	Rich Hill	Bates
Jones, John David	Lander, *Wyo.*	
Kinkead, Robert Benton	Kirkwood	St. Louis
Kleeman, Eleanor	Kansas City	Jackson
Kline, Bessie Mabel	Savannah	Andrew
Kreiner, Miriam Roselle	New York, *N. Y.*	
Krull, Fritz	Indianapolis, *Ind.*	
Kruse, Samuel Andrew	Sappington	St. Louis
Kuns, George Henry	Oregon	Holt
Landers, Maud Lee	West Plains	Howell
La Rue, Frank	Dexter	Stoddard
Lefevre, Ada	Columbia	Boone
Lesueur, Corinna Estill	Antlers, *I. T.*	
Letts, Helen E.	Sedalia	Pettis
Lewis, Burtless Dolley	Kansas City	Jackson
Meuschke, Arthur John	Sedalia	Pettis
Michaud, Mathilde	St. Louis City	
Miller, Frances Howe	Jefferson City	Cole
Moore, Ella Elizabeth	Warrensburg	Johnson
Moore, Leroy	Joplin	Jasper
Moore, Jerome Earle	Columbia	Boone
Morrow, Eugene Erwin	St. Louis City	
Moss, Juliette	Columbia	Boone
Mueller, Hugo Julius	Jackson	Cape Girardeau
Murry, Goldie	McCredie	Callaway
McBaine, Philip	Columbia	Boone
McClure, Myrtle Olive	Webster Groves	St. Louis
McDonald, Alma Cleantha	Princeton	Mercer
Newcomer, Harriet Elizabeth	Warrensburg	Johnson
Nixon, James Patrick Jr.	Lebanon	Laclede
Norton, Louise Ruth	Kansas City	Jackson
Nowell, Elizabeth	Columbia	Boone
Orr, Warren Henry	Hannibal	Marion
Painter, Amanda Herndon	Carrollton	Carroll
Pearse, Faith	Kansas City	Jackson

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Philippi, Harry Claire	Rockport	Atchison
Phillips, Paul Powless	St. Louis City	
Phillips, Harry Ashton	Bates City	Lafayette
Pirkey, Marion Ely	Louisville, *Ky.*	
Pirkey, Russell Johnson	Louisville, *Ky.*	
Potter, Caryl Ashby	St. Joseph	Buchanan
Powell, Mrs. Lulu May	Purdin	Linn
Prentis, Joseph Elliott	Brooklyn, *N. Y.*	
Read, John Wood Jr.	Columbia	Boone
Remley, Winifred Mary	Columbia	Boone
Renz, Elenora	Weston	Platte
Resor, Elsie Annie	Kahoka	Clark
Richardson, Alexander Monroe	Gallatin	Daviess
Riddle, Charles Franklin	Cowgill	Caldwell
Ridgeway, Mariam	Glenwood, *Iowa*	
Rixey, George Foreman	Jonesburg	Montgomery
Roberts, Ansley Hope	Centralia	Boone
Robinson, Ophelia Lyda	Hallsville	Boone
Rogers, James Foote	Sedalia	Pettis
Rollins, James Sidney	Columbia	Boone
Sanborn, Edith Ellen	Macon City	Macon
Sapp, Peyre Ferry	Galena, *Kans.*	
Schleicher, Rosabelle	St. Louis City	
Schonfield, Mabelle	St. Louis City	
Schooling, Ora Myrtle	Moberly	Randolph
Schwabe, Laura Jo	Columbia	Boone
Schwabe, Henry Otto	Columbia	Boone
Scrutchfield, Irene E.	Clarence	Shelby
Seley, Genevieve Mary	Columbia	Boone
Seymour, Edith Amelia	Ferguson	St. Louis
Shaver, Mary Winters	Plattsburg	Clinton
Shepard, Susie	Warrensburg	Johnson
Simpson, George	Oak Hill	Crawford
Sisson, Donna	Maryville	Nodaway
Smith, Robert Milton	Columbia	Boone
Smith, John Herbert	Smithton, *W. Va.*	
Smith, Nelle	Vinita, *Okla.*	
Smith, Frances Margaret	Maryville	Nodaway
Smith, Ina V.	Bowling Green	Pike
Snellings, Minnie	Columbia	Boone
Spicer, Inez	Columbia	Boone
Starin, Genevieve Alida	Columbia	Boone
Steele, Stella Elizabeth	Columbia	Boone
Stemmons, Walter Campbell	Carthage	Jasper
Stewart, Walter W.	Neosho	Newton
Sturges, Georgia	Sedalia	Pettis

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Swainson, Anna Elizabeth	Nevada	Vernon
Talbert, Rollie Edward	Cassville	Barry
Taylor, Susan Shelby	Columbia	Boone
Terrill, Thurman Tyndall	Huntsville	Randolph
Thompson, Will Speer	Princeton	Mercer
Tidd, Charley Coombs	Columbia	Boone
Tidd, Harry	Columbia	Boone
Timmons, Winnie	Columbia	Boone
Tull, Caroline	Ridgeway	Harrison
VanDyke, Rachel	Marshall	Saline
Weakley, Benjamin Clay	Lawson	Ray
Welch, Katherine Ventress	Columbia	Boone
West. Evelyn Chappell	Brookfield	Linn
Wetsel, Lewis Albert	Greenfield	Dade
White, Edgar Lee	Spokane, *Wash.*	
Wiley, Ralph Emerson	Sullivan, *Ill.*	
Wilhite, Cordelia Mitchell	Columbia	Boone
Wilson, John	Bloomfield	Stoddard
Winter, Ira Dutress	Scott's Bluff, *Neb.*	
Wishart, Mary Belle	Kansas City	Jackson
Withers, Alva Duvall	Columbia	Boone
Wood, Sadie	Nevada	Vernon
Woods, James Lee	Princeton	Mercer
Wright, Edward Franklin	Odessa	Lafayette
Zook, Earl Dott	Greenfield	Dade
Freshman Class.		
Alexander, George Aubrey	Lancaster	Schuyler
Allder, Byron B.	Canehill	Cedar
Alspaugh, Willah Charity	Sedalia	Pettis
Anderson, Sara Edmonds	Columbia	Boone
Anderson, Edna Frew	Independence	Jackson
Arbuthnot, Earl	Cuba, *Kan.*	
Arends, Henry Gerhardt	Quincy, *Ill.*	
Austin, Mora Maye	Columbia	Boone
Axline, Milford Asa	Nevada	Vernon
Baker, Fannie Estelle	Carthage	Jasper
Bandy, Andrew Theodore	Brunswick	Chariton
Barnes, Walter Robert	Kansas City	Jackson
Bass, Sigmund M.	St. Louis City	
Bayliss, Charles	Columbia	Boone
Beamer, Roxa	Lamar	Barton
Beaumont, John Wheeler	St. Joseph	Buchanan
Bernet, Fred Huttig	St. Louis City	
Blaser, Eugene Nelson	St. Joseph	Buchanan

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Blees, Frederick James	Macon	Macon
Bodman, Jno. Whittlesey	Kansas City	Jackson
Boggess, Eula Elizabeth	Excelsior Springs	Clay
Bohling, Walter Henry	Sedalia	Pettis
Boone, Wilmot deSaussure	Berkeley, *Cal.*	
Born, Charles Rudolph	Savannah	Andrew
Bowling, William Campbell	Columbia	Boone
Boyd, Loren B.	Larned, *Kan.*	
Bradley, John William	Higbee	Randolph
Brady, Agnes	St. Louis City	
Brasfield, Edwin D.	Unionville	Putnam
Bresnehen, Vivian	Brookfield	Linn
Brinkley, Joe Arthur	Linneus	Linn
Brodie, Wm. Judson	Van Buren, *Ark*	
Brown, Carrie Belle	Kansas City	Jackson
Brown, Mary Efale	Kansas City	Jackson
Bryan, Rebecca Wilcox	Van Buren, *Ark.*	
Buckingham, De LaVergne	Boonville	Cooper
Bungardt, Ernest Frederick	Kansas City	Jackson
Burch, Otis Mason	Hopkins	Nodaway
Burgess, Charles Elmer	Columbia	Boone
Burris, Frank Edward	Bethany	Harrison
Byers, Charles Clinton Jr.	Kansas City	Jackson
Calvert, Nettie May	Green Ridge	Pettis
Cammack, Edith	Kansas City	Jackson
Candler, Mayme Lanceford	Mountain Grove	Wright
Cannon, Helen TenBroecke	Kansas City	Jackson
Cannon, Mrs. Ida Wigginton	Elsberry	Lincoln
Carter, Margaret Elizabeth	Columbia	Boone
Carter, Nelle Mae	Columbia	Boone
Carter, Woodward Lee	Marshall	Saline
Carter, Lydia Frances	Rutledge	Scotland
Case, Mabel	Webster Groves	St. Louis
Castilo, Lola Leland	Howell	St. Charles
Chapman, Lola Maude	Ridgeway	Harrison
Chiles, Eber Earl	Kansas City	Jackson
Chittenden, Edward Wilson	Clinton	Henry
Christie, William Earl	Moberly	Randolph
Clausen, Adelia Betzler	Columbia	Boone
Clements, Frances Elizabeth	Independence	Jackson
Cline, Della Nita	Appleton City	St. Clair
Cole, James Preston	Quaker	Washington
Comer, Arthur Oliver	Columbia	Boone
Comer, Homer Edgar	Nevada	Vernon
Conrad, Elizabeth	Kansas City	Jackson
Cornell, Herman Dermott	Carthage	Jasper

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Cottingham, Jesse Bernays	Aurora	Lawrence
Cotton, Harry F.	Kansas City	Jackson
Couch, Charles Raymond	Galena, *Kans*	
Cowell, Harry Tinsman	Whiteboro, *Texas*	
Cox, Norman Alphus	Joplin	Jasper
Craig, Gladys Louise	Knobnoster	Johnson
Craig, Mary Mahala	Knobnoster	Johnson
Craig, Emma Virginia	Osawatomie, *Kan.*	
Craig, Sadie Louise	Columbia	Boone
Creswell, Alberta	Kansas City	Jackson
Crews, Allie	Columbia	Boone
Crews, Rhoda Albina	Columbia	Boone
Crossan, Charlene E.	Bethany	Harrison
Crowder, Albert Baxter	St. Louis City	
Curry, Charles Forrest	Kansas City	Jackson
Dale, Newton	Weston	Platte
Davis, Clara	Columbia	Boone
Davis, Horace Raymond	Columbia	Boone
Davis, Lora	Columbia	Boone
Davis, George Fred	Bowling Green	Pike
Dawson, Charles Edward	Knobnoster	Johnson
Dawson, John Douglas	Knobnoster	Johnson
Deatherage, Wm. Newland	Kansas City	Jackson
Dennis, Harry Clay	Macon City	Macon
Drake, Charles Baile	Warrensburg	Johnson
Drescher, Margarette Belle	Hannibal	Marion
Dunbar, Helen	Columbia	Boone
Eells, Isadore	Webb City	Jasper
Elias, Raymond Franklin	Bevier	Macon
Estes, Zannie May	Columbia	Boone
Evans, Eldon Cobb	Oregon	Holt
Eversole, Henry North	Caledonia	Washington
Ewing, Ephraim Macdonald	St. Louis City	
Fair, Harry Joel	Trenton	Grundy
Farley, Lawrence Barrett	Peoria, *Ill.*	
Farrar, Florence Marie	Lebanon	Laclede
Ferguson, Wm. Ward Jr.	Rich Hill	Bates
Fickel, Wm. Hannah	Columbia	Boone
Flagg, Howard	Louisiana	Pike
Fowlkes, Ruby Frances	Parma	New Madrid
Freeman, Beth Imogene	Crawford, *Neb.*	
Freet, Samuel Raymond	Slater	Saline
Fristoe, John D. Jr.	Miami	Saline
George, Ora Lee	Hamilton	Caldwell
Gerye, Walter Allen	Galena, *Kans.*	
Girdner, L. Cleo	Princeton	Mercer

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Glasgow, George Winfield	Macon	Macon
Glenn, Robert Ambrose	Webb City	Jasper
Gordon, Mabel Grace	Columbia	Boone
Gould, Robin Patterson	Albuquerque, *N. M.*	
Grant, Mae	Zalma	Bollinger
Gray, Edward Ludwig	St. Louis City	
Gray, Roy Cecil	Salisbury	Chariton
Gregory, Robert Homer	Greenfield	Dade
Grouse, Gladys Ethelyn	Chillicothe	Livingston
Haas, Edna Eugenia	Jamesport	Daviess
Hall, Hugh Levis Jr.	Sherman, *Texas*	
Halliburton, Wayne Cavil	Milan	Sullivan
Hansen, Vida	Independence	Jackson
Hanson, Hilda	Harlem	Clay
Harlan, Chloe Eleanor	Savannah	Andrew
Harper, Xemenia Y. Zyx	Butler	Bates
Harvey, Homer Alvan	Elk City, *Kan.*	
Haun, Grace	Iola, *Kan.*	
Hayes, Jessie	Sedalia	Pettis
Heddens, Vernon Offutt	St. Joseph	Buchanan
Heibel, Laura Mary	Columbia	Boone
Heins, Albert	Cameron	Clinton
Heisler, Anna Clara	Odessa	Lafayette
Hill, Herman Bebe	Kinloch	St. Louis
Hinkley, Roy Samuel	Stanberry	Gentry
Holloway, John Carroll	Columbia	Boone
Holmes, William Gregory	Kansas City	Jackson
Hopkins, Roy Corwith	Desoto	Jefferson
Hopkins, Otto	Farmington	St. Francois
Howell, W. Estelline	Denver, *Colo*	
Howell, Florence	Hallsville	Boone
Hudson, Carl Bibb	Montgomery	Montgomery
Huscher, Leonard Richard	Higginsville	Lafayette
Ingels, Callie Belle	Columbia	Boone
Isbell, Mary Mildred	Washington	Franklin
Jackson, James A.	Troy	Lincoln
Jackson, Royal Welty	Unionville	Putnam
Johnson, Oliver Ray	Maitland	Holt
Jones, Asenath Mary	Roanoke	Howard
Katzmaier, Elsa C.	Kansas City	Jackson
Kautz, Karl Fredrick	Hamilton	Caldwell
Keene, Mary Lucile	Columbia	Boone
Kem, James Preston Jr.	Macon City	Macon
Kenton, Gussie Viron	Hardin	Ray
Kirk, George Washington	Bethany	Harrison
Kirtley, Julia	Kansas City	Jackson

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Koechig, Irene	St. Louis City	
Kunkel, Louis Otto	Mexico	Audrain
Ladd, Arthur K.	Sherman, *Texas*	
Leaphart, Sada Frances	Brookfield	Linn
Lee, John Frederick	Eldorado, *Kans.*	
Leggett, Raymond Fletcher	Carthage	Jasper
Letts, Mary Elizabeth	Sedalia	Pettis
Lionberger, Wm. Harvey	New Florence	Montgomery
Logan, Mary Shepherd	Hannibal	Marion
Lucas, David Wesley	Goodwater	Iron
Lycan, Donald H.	Edina	Knox
Lyda, Robert Gideon	Columbia	Boone
Lyon, Richard Guy	St. Joseph	Buchanan
Mahan, Claude Will	Shelbina	Shelby
Marsh, Annie Elizabeth	Columbia	Boone
Means, George Washington	St. Joseph	Buchanan
Meyer, Mrs. Stella S.	Columbia	Boone
Miller, Barney E. Jr.	Kinderhook, *Ill.*	
Miller, Oliver John	St. Louis City	
Miller, Roy Emile	Moberly	Randolph
Miller, Edith Louise	Queen City	Schuyler
Minton, Harry Dyer	Kansas City	Jackson
Mitchell, Earle McDowell	Mound City	Holt
Mitchell, Ethlyn Casey	Columbia	Boone
Montgomery, Anna Reynolds	Greenfield	Dade
Moore, John Robert	St. Joseph	Buchanan
Moore, Raymond Lindsay	Galena, *Kans.*	
Moran, Nell	Bloomfield	Stoddard
Morrell, Caroline	St. Louis City	
Morgan, Elmer Minor	Stanberry	Gentry
Morris, Maude Lulu	Tulsa, *I. T.*	
Mosley, Fred Earnest	Columbia	Boone
Mueller, Herman, Henry Jr.	Jackson	Cape Girardeau
Muns, Walden Evermont	Montgomery City	Montgomery
Murphy, Thomas D.	Magnolia, *Ark.*	
Murry, Elizabeth Lake	McCredie	Callaway
McAntire, John William	Joplin	Jasper
McCanse, Asa Parker	Montgomery City	Montgomery
McCanse, Katherine Maver	Columbia	Boone
McClure, John Wesley	Hughesville	Pettis
McCubbin, Donald Lingan	Carthage	Jasper
McLemore, Clarence	Greenfield	Dade
Neal, Lily Bell	Kansas City	Jackson
Neale, Mervin Gordon	Thompson	Audrain
Needham, John Bransford, Jr.	Salem	Dent
Nemoitin, Anna	Luzon, *N. Y.*	

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Nesbitt, Nell ..	St. Joseph	Buchanan
Noe, Minnie Lee ..	Columbia ..	Boone
Oliver, Lulu Grace	Chillicothe ..	Livingston
Page, Ruth Harris	Chillicothe ..	Livingston
Pancoast, Carrie Lind	Trenton ..	Grundy
Paterson, John Shelly	Kansas City	Jackson
Patterson, Edwin Wilhite	Kansas City	Jackson
Payne, George Calvin	Muskogee, *I. T.*	
Pearse, Roy Walter	Kansas City	Jackson
Pechstein, Louis Augustus	Clinton ..	Henry
Pike, Caroline ..	Bolivar ..	Polk
Pironi, Estelle Marie	East St. Louis, *Ill.*	
Powell, John Benjamin	Maywood ..	Lewis
Powell, Thomas Robert	Hickman, *Ky.*	
Prehn, Katherine Eleanor	Webster Groves	St. Louis
Preist, Jessie Lucile	Shelbyville	Shelby
Pyles, Marshall Ashby	Pence Springs, *W. Va.*	
Ravitch, Max	Brooklyn, *N. Y.*	
Read, Verdie Mae	Columbia ..	Boone
Ream, Ross J. ..	Kansas City	Jackson
Reeves, Prentice ..	Lajunta, *Colo.*	
Reuter, Edward Byron	Holden	Johnson
Roberts, William David	Lutie	Ozark
Robertson, Laura	Mexico	Audrain
Rockwood, Charles Ainsworth	Nevada	Vernon
Rowland, Eva A.	Bevier	Macon
Rowland, William A.	Bevier	Macon
Rupe, Ova Lee ..	Carrollton	Carroll
Rusk, Nina Louise	St. Joseph	Buchanan
Russel, Charlene ..	Oregon	Holt
Sasse, George Thaddeus	Brunswick	Chariton
Scates, Silas Erwin	Bardwell, *Ky.*	
Schmidt, Amalia Virginia	Ferguson	St. Louis
Scott, D. R.	Columbia ..	Boone
Sebastian, Mattie Rea	Columbia ..	Boone
Sennatt, Harry Bray	Waterloo, *Ill.*	
Settle, Henry Frank	Settle Station	Platte
Shaw, John Overton	Harrisburg	Boone
Shelton, Bess Houston	Lamar	Barton
Shepard, Olive	Columbia ..	Boone
Shepherd, Bessie Lorene	Columbia ..	Boone
Shirkey, Emily Frances	Norborne ..	Carroll
Shirkey, Mohler	Norborne ..	Carroll
Shoptaugh, John Royal	Williamstown ..	Lewis
Sinclair, Frances Leona	Columbia ..	Boone
Smith, Eulah Maud	Webb City	Jasper

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Smith, William Saul	Little Rock, *Ark.*	
Smith, Robert Duval	St. Joseph	Buchanan
Snow, Charlotte Ann	Sedalia	Pettis
Sombart, Fred Charles	Boonville	Cooper
Spalding, Julia	Towanda, *Pa.*	
Spayd, Otto Wilson	Columbia	Boone
Speer, Boyd Alten	Chamois	Oregon
Spencer, Helen Mitchell	Kansas City	Jackson
Spragg, Lloyd Yeater	Ridgeway	Harrison
Spratt, Walter Mills	Weston	Platte
Steele, Bertha Alice	Independence	Jackson
Stillwell, Voorhis Cornelius	Hannibal	Marion
Stowers, James Evans	Columbia	Boone
Strother, Edwin	Fort Smith, *Ark.*	
Swindle, Ormund Reid, Jr.	Purdy	Barry
Swift, Charles Henry	Syracuse, *N. Y.*	
Talbot, Charles Hardin	Denver, *Colo.*	
Templin, Joseph	Nevada	Vernon
Thomas, Elizabeth Pugh	Brownsville, *Tenn.*	
Thompson, Clara Field	St. Louis City	
Thompson, Samuel Monroe	Clinton	Henry
Tindall, Richard Gentry	Columbia	Boone
Trullinger, Earle Barton	Maryville	Nodaway
Tull, Hamlin Ray	Ridgeway	Harrison
Tweedie, Edna	Carrollton	Carroll
Tyler, Benjamin Bartlet	Defiance	St. Charles
VanFossen, Daniel Edison	Humphreys	Sullivan
Votaw, Lorenzo Dow	Eureka	St. Louis
Vrooman, Clyde Leslie	Kansas City	Jackson
Walker, Glen Collins	Armstrong	Howard
Walker, Thomas Lee	Columbia	Boone
Walker, Nellie Odille	Macon	Macon
Walther, Lottie Cora	St. Louis City	
Ware, Eva	Linneus	Linn
Weldon, Mary Josephine	Hallsville	Boone
Wert, Harry Champion	Denver, *Colo.*	
Wiegand, Ernest H.	Traverse City, *Mich.*	
Wiley, John William	Ridgeway	Harrison
Wilhite, Mary Conley	Columbia	Boone
Wilkinson, Frank Courtney	Kansas City	Jackson
Williams, Edna Chalmers	Boonville	Cooper
Williams, Frank Benton	Carthage	Jasper
Williams, Lee Vernon	Sedalia	Pettis
Williams, Ira Bynum	Maysville	DeKalb
Williamson, Lucy	Mendon	Chariton
Wilson, Walter Byron	Gibbs	Adair

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Wilson, Mark Houser	Kirkwood	St. Louis
Wilson, Everett Clement	Nevada	Vernon
Winn, Lula May	St. Joseph	Buchanan
Winscott, Ocie Lee	Columbia	Boone
Wisely, John Hal	Carbon, *Texas.*	
Wolfe, Kathryne	Carthage	Jasper
Wolfers, Fred Robert	Pickering	Nodaway
Wonsetter, Mae	Cowgill	Caldwell
Wynkoop, Helen Lucile	St. Louis City	
Yantis, Sydney	Ft. Smith, *Ark.*	
Zook, Nettie Edna	Greenfield	Dade
Special Students.		
Alden, Florence Delia	Springfield, *Mass.*	
Ames, Mrs. L. D.	Columbia	Boone
Arnold, Mrs. Medora C.	San Jose, *Cal.*	
Beauchamp, Mrs. Pearl	Fulton	Callaway
Blackman, Mrs. Lillian Biggar	Columbia	Boone
Cash, Ruby	Frankford	Pike
Combs, Robert Pryor	Kansas City	Jackson
Davis, Charley D.	Princeton	Mercer
Day, Edna Daisy	East Orange, *N. J.*	
Denham, Jonnie	Rocheport	Boone
Denny, Frances Laura	Kansas City	Jackson
Emerson, Mrs. Helen Bliss	Columbia	Boone
Erwin, Samuel Nathaniel	Houston	Texas
Essex, Mrs. Lou R.	Lamar	Barton
Evans, Lola Lee	Rocheport	Boone
Eves, Bertha	Monarch, *Ark.*	
Fessenden, Mrs. Abigail Sayward	Columbia	Boone
Fitch, Mrs. Louise N.	Columbia	Boone
Fleming, Mildred Adele	Columbia	Boone
Ford, Mrs. Lizzie Wayland	Columbia	Boone
Forsythe, Essie Belle	Joplin	Jasper
Foster, George Lawrence	Downey City, *Cal.*	
Gentry, Laura D.	Sedalia	Pettis
Gilman, Ralph Webster	Baldwin, *Kans.*	
Gordon, Mrs. James	Columbia	Boone
Gove, Frances Wood	Richland	Pulaski
Gromer, Mrs. Mary Patton	Columbia	Boone
Harrison, Albert Grant	Grayson, *Texas*	
Hays, Blanche	Columbia	Boone
Harper, Roy Goddard	St. Louis City	
Heidt, Thomas Johannes	Everly, *Iowa.*	
Hertig, Ulysses Ronald	Columbia	Boone

COLLEGE OF ARTS AND SCIENCE.—Continued.

Name.	Postoffice.	County.
Hunt, Marguerite	Columbia	Boone
Jones, Helen	Columbia	Boone
Kennedy, Sabra Elleanor	Columbia	Boone
Knight, Gabrielle	Alexander City, *Ala.*	
Knighton, Milton Phil	Hannibal	Marion
Lindsey, Bessie	Columbia	Boone
Macfarlane, Mrs. Alice Orear	Columbia	Boone
Miller, Callie Will	Columbia	Boone
Miller, Marie Louise	Holden	Johnson
Mills, Clara Uramia	Memphis	Scotland
McGhee, Lora Lee	Milan	Sullivan
McGlothlin, Mary Edith	Cape Girardeau	Cape Girardeau
Overall, Florence Rollins	Columbia	Boone
Palmer, Mrs. Mattie Smith	Columbia	Boone
Philips, Mrs. Sarah	Columbia	Boone
Potts, Elizabeth	Salisbury	Chariton
Pyle, Ida May	Eldorado Springs	Cedar
Rollins, Clarkson	Columbia	Boone
Scott, John Grafton	Columbia	Boone
Scott, Mrs. John Grafton	Columbia	Boone
Seares, Mrs. F. H.	Columbia	Boone
Senour, Edith Kathryn	Pasadena, *Cal.*	
Stanton, Josephine	Brooklyn, *N. Y.*	
Stephens, Mary Moss	Columbia	Boone
Stevens, Mary Evans	Trinidad, *Colo.*	
Stewart, Ida Margaret	St. Louis City	
Stone, Mrs. Bessie	Columbia	Boone
Switzler, Mrs. Ellen R.	Columbia	Boone
Tuttle, Mrs. F. W.	Columbia	Boone
Weese, William Joshua	Athelstan, *Iowa.*	
Weiss, Albert Paul	St. Louis City	
Welch, Mrs. Florence Dorsey	Columbia	Boone
Willis, Florence	Columbia	Boone
Willis, Blanche Horner	Alexander City, *Ala.*	

Teachers College

Name.	Postoffice.	County.
Senior Class.		
Adams, Wilkie Myrtle	Columbia	Boone
Alford, Clarence Elmer	Vandalia	Audrain
Anderson, Oscar Elwood	Columbia	Boone
Arthur, Walter	Reeds	Jasper
Barkley, Grace	Henry	Ray
Bridges, Helen Frances	Kansas City	Jackson
Campbell, Mary Ellen	St. Joseph	Buchanan
Cochel, Mary Alice	Columbia	Boone
Cook, William Hutchinson	Columbia	Boone
Covington, Ruth Olive	Dexter	Stoddard
Duvall, Jennie Adeline	Harrisonville	Cass
Edmiston, Henry H.	Moscow, *Idaho.*	
Fitzgerald, Ruth	Sedalia	Pettis
Frakes, Susie Henderson	Columbia	Boone
Frieze, Bessie	Seybert	Dade
Funk, Eugene Edgar	Kirksville	Adair
Galbraith, Elizabeth	Everton	Dade
Gleason, Frances Ethel	Lebanon	Laclede
Gordon, Eleanor Madge	Columbia	Boone
Grace, Edith Emily	Emory, *Texas.*	
Hamilton, Elizabeth Agnes	Richmond	Ray
Hedges, Peter Thompson	Purdin	Linn
Horn, Ernest	Princeton	Mercer
Killam, Susan Elizabeth	Winfield	Lincoln
Koch, Clara May Barbara	LaGrange	Lewis
Krabiel, Helen Mar	Kansas City	Jackson
Marquis, Eva Malvena	Kansas City	Jackson
Montgomery, Maude Ellis	Columbia	Boone
Moody, Levi, Jr.	Columbia	Boone
Moreell, Anna	St. Louis City	
Murry, Nettie Lee	Murry	Boone
McCarroll, Ben	Bloomfield	Stoddard
McCord, Charles Harvey	Atlanta, *Ga.*	
McPherson, John Edward	Martin City	Jackson
Nardin, Frances Louise	Columbia	Boone
Northcutt, Ina Klosking	Columbia	Boone
Oldham, Charles Woodson	Bosworth	Carroll
Pemberton, Walker S.	Armstrong	Howard
Philippi, Harry Claire	Rockport	Atchison
Pickett, Nettie Violet	Trenton	Grundy
Plunkett, Frank Willis	Columbia	Boone
Powell, Park	Hickman, *Ky.*	
Powell, A. Tilden	Purdin	Linn

TEACHERS COLLEGE.—Continued.

Name.	Postoffice.	County.
Robinson, Elizabeth	Columbia	Boone
Saunders, Charles Winston	Hickman, *Ky.*	
Shoemaker, Rose May	Darlington	Gentry
Snyder, Edith Logan	Hannibal	Marion
Spangler, Kathryn E..... ...	Clinton	Henry
Stewart, Faye Louise	Chillicothe	Livingston
Stickerod, Lydia Adeline	Rockport	Atchison
Taylor, Jean Elsie	Mount Moriah	Harrison
Thomas, William Washington	Springfield	Greene
Tyler, Eleanor Murdoch	St. Louis City	
Vance, Berenice Wilson	Marshall	Saline
Walker, Mamie Clare	Columbia	Boone
Weeks, Eula	Rich Hill	Bates
Westlake, Dixie Rush	Columbia	Boone
Williams, Charles Hamilton	Marble Hill	Bollinger
Wood, James Madison	Boyer	Wright
Wright, Edward Franklin	Odessa	Lafayette
Wright, Kirby Smith	Ashley	Pike
Junior Class.		
Andrews, John H.	Norborne	Carroll
Asbury, Mary Ellen	Farmington	St. Francois
Baker, Bettie May	Columbia	Boone
Barbee, Frederick H.	Webb City	Jasper
Barnett, Carrie	Columbia	Boone
Behrens, Anna	Boonville	Cooper
Bell, Lucile	Monroe City	Monroe
Benson, Anna Elizabeth	Geneva, *Iowa.*	
Boucher, Andrew S.	Dexter	Stoddard
Brasfield, Elizabeth	Unionville	Putnam
Bray, Willis Joseph	Fredericktown	Madison
Burk, Ellen Idella	Edina	Knox
Bush, Ernest F.	Fulton	Callaway
Carr, Charles Frederick	Rucker	Boone
Cole, Frances Cleveland	Columbia	Boone
Collins, Enoch Arthur	Columbia	Boone
Cook, Jennie	Centralia	Boone
Cooper, May Belle	Gallatin	Daviess
Cross, Mary Thompson	Columbia	Boone
Crow, Clara	Columbia	Boone
Curry, Alva Rhoten	Centerview	Johnson
Davis, Sheldon Emmor	El Dorado Springs	Cedar
Dimmitt, Bertha	Shelbyville	Shelby
Donaldson, Bertha L.	Independence	Jackson
Duncan, Mabel Helen	Columbia	Boone

TEACHERS COLLEGE.—Continued.

Name.	Postoffice.	County.
Eckelberry, John H..	Kidder	Caldwell
Elliff, Mrs. Jean Cumming	Columbia	Boone
Elliott, Stephen E.	St. Joseph	Buchanan
Fair, Bessie S.	Trenton	Grundy
Faulkner, Elizabeth	Lamar	Barton
Freeman, Floyd Conger	Chaffee, *N. Y.*	
Fulkerson, Etta	Kansas City	Jackson
Gardner, Clara	Joplin	Jasper
Graf, Leander Guy	Hermann	Gasconade
Hardinger, Clerc Temple	Civil Bend	Daviess
Heck, Gertrude	California	Moniteau
Helm, Katherine Mary	Hannibal	Marion
Holt, Althea Erna	Columbia	Boone
Hugley, Charles B.	Monroe City	Monroe
Jesse, Caroline Elizabeth	Columbia	Boone
Jesse, Mary D.	Litwalton, *Va.*	
Kingsbury, Laura Mabel	Columbia	Boone
Lamb, Mary A.	Columbia	Boone
Landers, Effie May	West Plains	Howell
Lee, Edgar Desmond	Laddonia	Audrain
March, John G.	Armstrong	Howard
Marshall, Della Esther	Kansas City	Jackson
Moore, Mabel Margaret	Moberly	Randolph
McCoy, Susan Gertrude	Carthage	Jasper
McDearman, Mary I.	St. Louis City	
O'Brien, Agnes	Independence	Jackson
Otis, Rachel T. D.	Hopkins	Nodaway
Paine, Alice	Louisiana	Pike
Parker, Grace Lucile	Jefferson City	Cole
Parker, Edith	Columbia	Boone
Parsons, Elmer Garrett	Harrisonville	Cass
Phillips, Harry Ashton	Hates City	Lafayette
Proffer, Luther E.	Doniphan	Ripley
Pryor, Herbert	Paynesville	Pike
Quinn, Effie Roberta	Columbia	Boone
Reavis, George W.	Maitland	Holt
Rodes, Thula	Sedalia	Pettis
Schonfield, Mabelle	St. Louis City	
Simpson, George	Oak Hill	Crawford
Snyder, Joseph Conway	Kirkwood	St. Louis
Spalding, Marion Elizabeth	Columbia	Boone
Talpey, Charlott Abigail	Kansas City	Jackson
Taylor, Susan Shelby	Columbia	Boone
Terrill, Thurman Tyndall	Huntsville	Randolph
Trotter, Florence	Kansas City	Jackson
Turpin, Mabel Lee	Nevada	Vernon

TEACHERS COLLEGE.—Continued.

Name.	Postoffice.	County.
VanSchoiack, Della Marie	Columbia	Boone
Wallace, George Leslie	Ft. Branch, *Ind.*	
Wharton, Mary	Columbia	Boone
Wishart, Mary Belle	Kansas City	Jackson
Wolff, Lucy Henrietta	Kansas City	Jackson
Wood, O. A.	Sedalia	Pettis
Yoffie, Leah	St. Louis City	
Sophomore Class.		
Allen, Edith Frances	Chicago, *Ill.*	
Baldwin, Carrie C.	Mexico	Audrain
Barkley, Bennetta Maude	Mexico	Audrain
Bell, Louis Albert	St. Louis City	
Bell, Lucile	Monroe City	Monroe
Bell, Mary Macrina	Monroe City	Monroe
Botts, Daisy Douglass	Columbia	Boone
Bowman, Henrietta Marr	Kansas City	Jackson
Cannell, Grace	Mexico	Audrain
Carter, Jesse Lee	Columbia	Boone
Case, Ines	Wester Groves	St. Louis
Cho, Toda	Tochigi, *Japan.*	
Colonius, Julius Linus	Columbia	Boone
Compton, Ross	Dexter	Stoddard
Condict, Georgia Lorine	Lamar	Barton
Cook, Eugenie Ethel	Columbia	Boone
Cosgrove, Gertrude	Boonville	Cooper
Covington, Leta	Shamrock	Callaway
Cunningham, Ethel Belle	Columbia	Boone
Davis, Clara	Columbia	Boone
Dodson, Edith	Columbia	Boone
Edwards, Jesse McAlister	Columbia	Boone
Evans, Ernest Roper	Armstrong	Howard
Foglesong, Clara Magdalene	Columbia	Boone
Ford, Mary Frances	Columbia	Boone
Garnett, Bessy May	Columbia	Boone
Garrison, Noble Lee	Bethel	Shelby
Gibson, Emily Estelle	Elsberry	Lincoln
Hanna, Mary Alice	Trenton	Grundy
Haynes, Fryn	Warsaw	Benton
Helm, Florence	Hannibal	Marion
Hildebrand, Mary Blanche	Columbia	Boone
Howat, Lela Jean	Clarksville	Pike
Ingrum, Dora Louvenia	Columbia	Boone
Ingrum, Alpha Elverto	Columbia	Boone
Jarvis, Reynolds Fletcher	Columbia	Boone
Johnson, Lillian	Columbia	Boone

TEACHERS COLLEGE.—Continued.

Name.	Postoffice.	County.
Johnson, Ray Ivan	Princeton	Mercer
Jones, Ada Magee	Roanoke	Howard
Kleeman, Eleanor	Kansas City	Jackson
Kline, Bessie Mabel	Savannah	Andrew
Landers, Maud Lee	West Plains	Howell
Letts, Helen E.	Sedalia	Pettis
Michaud, Mathilde	St. Louis City	
Milan, Nellie	Macon City	Macon
Miller, Frances Howe	Jefferson City	Cole
Moss, Juliette	Columbia	Boone
Murrill, Daisy May	David	Texas
Murry, Goldie	McCredie	Callaway
McClure, Myrtle Olive	Webster Groves	St. Louis
McDonald, Alma Cleantha	Princeton	Mercer
Newcomer, Harriet Elizabeth	Warrensburg	Johnson
Patterson, Etta	Central City, *Nebr.*	
Pearse, Faith	Kansas City	Jackson
Remley, Winifred Mary	Columbia	Boone
Renz, Elenora	Weston	Platte
Resor, Elsie Annie	Kahoka	Clark
Riddle, Charles Franklin	Cowgill	Caldwell
Roberts, Ansley Hope	Centralia	Boone
Robinson, Ophelia Lyda	Hallsville	Boone
Schwabe, Laura Jo	Columbia	Boone
Scrutchfield, Irene E.	Clarence	Shelby
Seley, Genevieve Mary	Columbia	Boone
Seymour, Edith Amelia	Ferguson	St. Louis
Shaver, Mary Winters	Plattsburg	Clinton
Smith, Frances Margaret	Maryville	Nodaway
Smith, Ina V.	Bowling Green	Pike
Snellings, Minnie	Columbia	Boone
Spicer, Ines	Columbia	Boone
Starin, Genevieve Alida	Columbia	Boone
Steele, Stella Elizabeth	Columbia	Boone
Swainson, Anna Elizabeth	Nevada	Vernon
Terrill, Thurman Tyndall	Huntsville	Randolph
Timmons, Minnie	Columbia	Boone
Tull, Caroline	Ridgeway	Harrison
West, Evelyn Chappell	Brookfield	Linn
Wetherell, Bettie	Carthage	Jasper
Williams, Olive	Columbia	Boone
Freshman Class.		
Anderson, Sara Edmonds	Columbia	Boone
Austin, Mora Maye	Columbia	Boone

TEACHERS COLLEGE.—Continued.

Name.	Postoffice.	County.
Baker, Fannie Estelle	Carthage	Jasper
Beamer, Roxa	Lamar	Barton
Boggess, Eula Elizabeth	Excelsior Springs	Clay
Brown, Carrie Belle	Kansas City	Jackson
Cannon, Helen TenBroecke	Kansas City	Jackson
Case, Mabel	Webster Groves	St. Louis
Chapman, Lola Maude	Ridgeway	Harrison
Chittenden, Edward Wilson	Clinton	Henry
Comer, Arthur Oliver	Columbia	Boone
Covington, Sibyl Violet	Dexter	Stoddard
Crews, Allie	Columbia	Boone
Crossan, Charlene E.	Bethany	Harrison
Fischer, Christine Cora	Sedalia	Pettis
Fowlkes, Ruby Frances	Parma	New Madrid
Frampton, Lela May	Lamar	Barton
Goff, Nancy Clifton	Oklahoma City, *Okla.*	
Grant, Mae	Zalma	Bollinger
Graves, Lillian	Lancaster	Schuyler
Griffith, Anna Evans	Watson	Atchison
Grouse, Gladys Ethelyn	Chillicothe	Livingston
Haas, Edna Eugenie	Jamesport	Daviess
Hansen, Vida	Independence	Jackson
Hansen, Hilda	Harlem	Clay
Harlan, Chloe Eleanor	Savannah	Andrew
Haynes, Jessie	Sedalia	Pettis
Heins, Albert	Cameron	Clinton
Holloway, Emma Belle	Columbia	Boone
Howell, Florence	Hallsville	Boone
Jones, Asenath Mary	Roanoke	Howard
Kirk, George Washington	Bethany	Harrison
Kunkel, Louis Otto	Mexico	Audrain
Leaphart, Sada Frances	Brookfield	Linn
Letts, Mary Elizabeth	Sedalia	Pettis
Lewis, Henry Guy	Sturgeon	Boone
Loomis, Charles Frances	St. Louis City	
Mann, Helen	Gallatin	Daviess
Miller, Roy Emile	Moberly	Randolph
Mitchell, Ethlynn Casey	Columbia	Boone
Moran, Nell	Bloomfield	Stoddard
Moreell, Caroline	St. Louis City	
Morris, Maud Lulu	Tulsa, *I. T.*	
Muckey, Stella Maud	Sedalia	Pettis
Murry, Elizabeth Lake	McCredie	Callaway
McClanahan, Frances Evelyn	Columbia	Boone
McGhee, Erma	Columbia	Boone
Nesbitt, Nell	St. Joseph	Buchanan

TEACHERS COLLEGE.—Continued.

Name.	Postoffice.	County.
Oliver, Lulu Grace	Chillicothe	Livingston
Page, Ruth Harris	Chillicothe	Livingston
Panconst, Carrie Lind	Trenton	Grundy
Pechstein, Louis Augustus	Clinton	Henry
Pironi, Estelle Marie	East St. Louis, *Ill.*	
Powell, Charles Albert	Macon	Macon
Prehn, Katherine Eleanor	Webster Groves	St. Louis
Priest, Jessie Lucile	Shelbyville	Shelby
Reed, Letha Cornelia	Columbia	Boone
Rusk, Nina Louise	St. Joseph	Buchanan
Scates, Silas Erwin	Bardwell, *Ky.*	
Schmidt, Amelia Virginia	Ferguson	St. Louis
Schwabe, Emma Talmadge	Columbia	Boone
Shelton, Bess Houston	Lamar	Barton
Shirkey, Emily Frances	Norborne	Carroll
Sinclair, Frances Leona	Columbia	Boone
Snow, Charlotte Ann	Sedalia	Pettis
Springgate, Ada	Washington	Franklin
Stanley, Ethyl Mae	Sedalia	Pettis
Steele, Bertha Alice	Independence	Jackson
Stuart, Ada Abbott	Joplin	Jasper
Thom, Mary Lee	Columbia	Boone
Thurston, Evangeline	Columbia	Boone
Tucker, Ernest Alonzo	Wooldridge	Cooper
Tweedie, Edna	Carrollton	Carroll
Ware, Eva	Linneus	Linn
Williams, Zulu E.	Lamar	Barton
Williamson, Lucy	Mendon	Chariton
Winn, Lulu May	St. Joseph	Buchanan
Wolfe, Kathryne	Carthage	Jasper
Woodward, Winona	Columbia	Boone
Wynkoop, Helen Lucile	St. Louis City	
Special Students.		
Albietz, Emily Alberta	Marshall	Saline
Barnett, Nellie Mary	Columbia	Boone
Barnwell, James O'Neill	Fernandino, *Fla.*	
Bateman, Alice Gertrude	Columbia	Boone
Biggs, Josephine	Bowling Green	Pike
Carter, Nelle Vivian	Dexter	Stoddard
Clarahan, Mamie	Harper	Iowa
Foglesong, Anne Catherine	Columbia	Boone
Gray, Minnie	Frazier	Buchanan
Hamby, Mrs. Wm. H.	Neosho	Newton
Hearne, Mrs. Roberta C.	Columbia	Boone

TEACHERS COLLEGE.—Continued.

Name.	Postoffice.	County.
Hedges, Mrs. Ina	Purdin	Linn
Jones, Del Rey	Chillicothe	Livingston
Lafon, Mrs. Mary Hale	Clayton	St. Louis
Lyon, Duane Evans	Columbia	Boone
Mott, Ezra Ward	Roanoke	Howard
Norman, Frances Mabel	Stanberry	Gentry
Smith, Emeline	Fayette	Howard
Strickler, Ruby Margaret	Columbia	Boone
Utz, Mollie	St. Joseph	Buchanan

College of Agriculture and Mechanic Arts.

A.—School of Agriculture.

Name.	Postoffice.	County.
Senior Class.		
Cockefair, Edward Augustus	Unionville	Putnam
Kelso, Floyd Lee	Willard	Greene
King, George Franklin	Sweet Springs	Saline
Lanham, Wm. Bradford	Sapp	Boone
Read, John William	Columbia	Boone
Tillman, Benjamin William	Loose Creek	Osage
Woodward, Tom Elwyn	Columbia	Boone
Junior Class.		
Brown, Buford Otis	Denton, *Texas.*	
Carothers, William Jackson	Excelsior Springs	Clay
Cochran, Turner Cleveland	Columbia	Boone
Cockefair, William Raymond	Unionville	Putnam
Coe, Montelle Galbreath	San Francisco *Cal.*	
Doane, Duane Howard	Joplin	Jasper
Dow, Simon David	Georgetown	Pettis
Estes, Joseph Monteith	Columbia	Boone
Hill, John Benjamin	Columbia	Boone
Howard, Robert Francis	Brookline	Greene
Hutchison, Claude Burton	Chillicothe	Livingston
Kelly, Garnett Duncan	Hallsville	Boone
Knudson, Lewis	Milwaukee, *Wis.*	
Krusekopf, Henry Hermann	Chamois	Osage

SCHOOL OF AGRICULTURE.—Continued.

Name.	Postoffice.	County.
Lillard, Lafayette	Columbia	Boone
Lockwood, Charles Clyde	Columbia	Boone
Mason, Ralph Hedges	Mexico	Audrain
McCool, Morris Mickey	Maysville	DeKalb
McCoy, Raymond Alexander	Carthage	Jasper
Oliver, John Byrd	Cape Girardeau ...	Cape Girardeau
Pryor, Ike Thomas, Jr.....	Uvalde, *Texas.*	.....
Reed, Ollie Ezekiel	Moberly	Randolph
Rusk, Henry Perly	Windsor	Henry
Sherwin, Melvin Ernest	Stockton	Cedar
Smith, Clifford Bradley	Kansas City	Jackson
Snow, John Howard	St. Louis City.....	.....
Taylor, Charles Henry	Harrisonville	Cass
Sophomore Class.		
Bell, Lewis Benton	Monroe City	Monroe
Calvert, Oliver	Greenridge	Pettis
Cranmer, George William	Chillicothe	Livingston
Dearing, Charles Thornton	Columbia	Boone
Eickhoff, Gregory Harte	San Francisco, *Cal.*	.....
Eickhoff, Victor	San Francisco, *Cal.*	...
Field, Maurice Seever	Higginsville	Lafayette
Gordon, Harold John	Columbia	Boone
Henley, Hezzie Albert	Joplin	Jasper
Jones, Arthur Anwyl	Kansas City	Jackson
Keithley, Joseph Rayburn	Bowling Green	Pike
Kinkead, Robert Benton	Kirkwood	St. Louis
Latshaw, Joseph Bruce	Caruthersville	Pemiscot
McCanse, Cecil C.	Columbia	Boone
McNatt, Homer Elkanah	Aurora	Lawrence
Nelson, Harry Rowland	Springfield	Greene
O'Neal, Emmett Cleveland	Paris	Monroe
Rodekohr, Edward John	Corder	Lafayette
Rust, Robert Singleton	Hardin	Ray
Rust, Bushrod	Hardin	Ray
Sawyer, William Edward	Gallatin	Daviess
Schwarze, Carl Alois	Brooklyn, *N. Y.*.....	.....
Shepard, Harold Edgar	Skidmore	Nodaway
Shepard, Norton Hamilton	Columbia	Boone
Thieman, Melvin Nimrod	Aullville	Lafayette
Woods, Lee Aker	Smithville	Clay
Wright, Turner Richardson Haden..	Columbia	Boone
Wright, James Kelly	Columbia	Boone

SCHOOL OF AGRICULTURE.—Continued.

Name.	Postoffice.	County.
Freshman Class.		
Allder, Byron B.	Lonehill	Cedar
Allen, Leonard Alonzo	Dadeville	Dade
Barnett, Dudley Burney	Harrisonville	Cass
Bowling, William Campbell	Columbia	Boone
Brandt, Philip Martin	Plymouth, *Ohio.*	
Brown, Hamlin	Lake Spring	Dent
Burruss, George Henry	Miriam	Saline
Cole, Pleasant Theodore	Quaker	Washington
Ellington, Elmer Verne	Holliday	Monroe
Farley, Lawrence Barrett	Peoria, *Ill.*	
Frazier, Aubrey	Columbia	Boone
Kahn, Harold Benjamin	Bigelow	Holt
Kalina, Jacob	New York, *N. Y.*	
Lewis, Carl Orville	Columbia	Boone
Lewis, John Pierre	Columbia	Boone
McGill, Barnet	Lebanon	Laclede
Nelson, Edgar Chilton	Bunceton	Cooper
Niles, Ernest Hildreth	Waverly, *Kans.*	
Palmer, John McCarty	Fayetteville, *Ark.*	
Pickett, John Erasmus	Carthage	Jasper
Price, Christian Samuel	Joplin	Jasper
Richey, Frederick David	St. Louis City	
Ryland, John Edward	Kansas City	Jackson
Schrent, Otto	Brunswick	Chariton
Scott, Elmer Cy	Canton	Lewis
Smoot, Banner Porter	Centralia	Boone
Snellings, Claud King	Columbia	Boone
Stephenson, Samuel Charles	Elmira	Ray
Szymoniak, Boleslaus	Buffalo, *N. Y.*	
Tooley, Harry Myrle	Monroe City	Monroe
Vanatta, Earl Steer	Vandalia	Audrain
White, George Cleveland	Harrisonville	Cass
White, Walter Evart	Drexel	Cass
Special Students.		
Allen, Frank Wisdom, Jr.	Columbia	Boone
Ballenger, John Monroe	Columbia	Boone
Beamer, Joe Stewart	Lamar	Barton
Booth, Earl Witter	Milan	Sullivan
Clark, Thomas Gentry	Columbia	Boone
Elms, James Robert	Jennings	St. Louis
Gardner, Henry Thomas	Rocheport	Boone
Hall, Raymond Hunter	Mexico City, *Mexico*	

SCHOOL OF AGRICULTURE.—Continued.

Name.	Postoffice.	County.
Hessel, Milton Sam	Kearney	Clay
Ingram, Fred Burnard	Oneonto, *Ala.*	
Kirk, Clyde M.	Plattsburg	Clinton
Latham, Peter Conway	Latham	Moniteau
Long, Minor Pierce	Hallsville	Boone
Lowery, Estell Monroe	Mayoworth, *Wy.*	
Moss, Melvin	Corpus Christi, *Texas*	
Naylor, William Bright	Morrowville, *Kans.*	
Reid, Davis Maurice	West Plains	Howell
Stephens, Alta Reid	Columbia	Boone
Streeter, Fred Clare	Hamilton	Caldwell
Stroeter, Edwin Rogers	Kearney	Clay
Thornton, Thomas Edward	St. Joseph	Buchanan
White, Carl Leslie	Aurora	Lawrence
White, Mrs. Walter E.	Columbia	Boone
Wilson, Jesse Earl	Oneonto, *Ala.*	
Woodard, John	Fruitdale, *Ala.*	
Wyman, Roy	Grant City	Worth

Short Course in Agriculture, etc.

(*A. H.*—Animal Husbandry; *P. P.*—Plant Production; *D.*—Dairying.)

Name.	Studies.	Postoffice.	County.
Agnew, Harry Lee	A. H.	Mason City, *Ill.*	
Alder, John Arthur	P. P.	New Haven	Franklin
Ames, Harry	A. H.	Maplewood	St. Louis
Ames, Lee David	A. H.	Maplewood	St. Louis
Barrow, Elmer George	A. H.	Rosendale	Andrew
Beale, Arthur Lee	A. H.	Odessa	Lafayette
Begale, Lester	A. H.	Gibbs	Adair
Bewick, Eben William	A. H.	Nevada	Vernon
Bland, William Abram	A. H.	Gower	Clinton
Booth, Earl Witter	A. H.	Milan	Sullivan
Bothwell, Allison Hunter	A. H.	Breckenridge	Caldwell
Bouldin, Harry R.	D.	Hughesville	Pettis
Boyer, Ezra	P. P.	Cantril, *Iowa*	
Boyer, John L.	A. H.	Columbia	Boone
Brinkley, William Preston	A. H.	Linneus	Linn
Brown, Leonard N.	A. H.	Centralia	Boone

SHORT COURSE IN AGRICULTURE.—Continued.

Name.		Postoffice.	County.
Brown, Louis A.	D.	Malta Bend	Saline
Bruer, Omar Augustus	A. H.	Pontiac, *Ill.*	
Burckhardt, George	A. H.	Bethel	Shelby
Carter, Berry N.	P. P.	Higginsville	Lafayette
Castilo, Mitchell	A. H.	Howell	St. Charles
Clarkson, Lawrence O.	A. H.	Callao	Macon
Cranmer, Roy Evert	A. H.	Chillicothe	Livingston
Daniel, Richard Martin	P. P.	McFall	Gentry
Dankenbring, Edward	A. H.	Sweet Springs	Saline
Denham, Joe	A. H.	Centralia	Boone
Dressel, John	A. H.	Sappington	St. Louis
Duspiva, Michael	A. H.	Ramsey, *Ill.*	
Edwards, John	A. H.	Price's Branch	Montgomery
Ellis, Clyde W.	A. H.	Columbia	Boone
Eyman, Jerome Alphonso	A. H.	Edina	Knox
Fulkerson, Jewett	A. H.	Lebanon	Laclede
Ganote, George Edgar	D.	Cameron	Clinton
Glenn, Robert P.	A. H.	Columbia	Boone
Hatcher, Roy Dayhoff	A. H.	Shelbyville	Shelby
Hays, Blanche	P. P.	Columbia	Boone
Henley, Claude Lumpkin	P. P.	Spring Garden	Miller
Hessel, Milton Sam	A. H.	Kearney	Clay
Hindman, Dean	A. H.	Fairfax	Atchison
Hyda, Sanford	P. P.	McFall	Gentry
Jenkins, Thomas Arthur	A. H.	Kansas City	Jackson
Kent, Stephen Baxter	A. H.	Chillicothe	Livingston
Kline, Albert V.	A. H.	Windsor	Henry
Latham, Peter Conway	A. H.	Latham	Moniteau
Luthy, Albert Malcolm	D.	Lebanon	Laclede
Mason, Harry Edgar	P. P.	Brookfield	Linn
Miller, Edwin M.	D.	Macon	Macon
Mitchell, Harris Earl	A. H.	Hiawatha, *Kans.*	
Moore, Elliott Lovell	A. H.	Amity	DeKalb
Moss, D. D., Jr.	D.	Columbia	Boone
McNair, Owen Coffin	D.	Flint, *Mich.*	
Poteet, Archie Dell	P. P.	Paris	Monroe
Poteet, Lloyd Dudley	P. P.	Paris	Monroe
Randall, Norman Shelby	A. H.	Creighton	Cass
Reed, George	A. H.	Breckenridge	Caldwell
Rocklage, Charles William	A. H.	Henry	Ray
Rocklage, Alma	D.	Henry	Ray
Schnabel, John	P. P.	Columbia	Boone
Scott, Albert	A. H.	Osceola	St. Clair
Shepard, Charles B.	D.	Hughesville	Pettis
Smith, Wm. Earnst	A. H.	Alma	Lafayette
Smith, Edgar M.	D.	Barnard	Nodaway

SHORT COURSE IN AGRICULTURE.—Continued.

Name.		Postoffice.	County.
Spear, Roy William	A. H.	Mason City, *Ill.*	
Speer, Everton Caleb	A. H.	Braggadocio	Pemiscot
Sturhan, August Wm.	P. P.	LaGrange	Lewis
Sutherland, Ernest Eldon	A. H.	Sutherland	Johnson
Swope, Buel A.	A. H.	Wheeling	Livingston
Thompson, Wm. Raymond	P. P.	Laddonia	Audrain
Thompson, Albert Fay	D.	Clarence	Shelby
Tuggle, George B.	A. H.	Parkville	Platte
Tyler, Wm. Lucien Vardaman	A. H.	Defiance	St. Charles
Uphaus, Milton	A. H.	Concordia	Lafayette
Wahlers, Arthur Philip	P. P.	Versailles	Morgan
Walkenhorst, Edwin	A. H.	Concordia	Lafayette
Wasel, Wencel Titus	A. H.	Auxvasse	Callaway
Williams, Albert Jefway	A. H.	Pattonsburg	Daviess
Wilson, I. J.	A. H.	Farmington	St. Francois

Department of Law.

Name.	Postoffice.	County.
Senior Class		
Baer, Monte	St. Louis City	
Baity, Anson Albert	Xenia, *Ill.*	
Bates, Leslie E.	Excelsior Springs	Clay
Bates, Sardis W.	Risingsun, *Ohio*	
Beckett, Harry Baxter	Kansas City	Jackson
Boley, Boss	Tina	Carroll
Bond, Ray Thomas	Joplin	Jasper
Caldwell, Robert Breckenridge	Vandalia	Audrain
Chamberlin, George Robert	Odessa	Lafayette
Clevenger, Joseph Raymond	Excelsior Springs	Clay
Clifford, George Edward	College Mound	Macon
Collins, Mortimer Bartlett	Brookfield	Linn
Crowe, Philander Goodall	Chillicothe	Livingston
Denham, Robert Newton, Jr.	St Louis City	
Donnell, Forest C.	Maryville	Nodaway
Elliott, Thomas Edward	Nevada	Vernon
Frawley, Elwood Bernard	Kansas City	Jackson
Gardner, Ira Scott	Brookfield	Linn
Gleaves, Milnor Earl	St. Joseph	Buchanan
Harrison, Carl	Mexico	Audrain

DEPARTMENT OF LAW.—Continued.

Name.	Postoffice.	County.
Hesse, Frank Charles	Moberly	Randolph
Homer, Glen Roy	Deepwater	Henry
Johnson, Norman Joseph	Denver, *Colo.*	
Johnson, Ralph P.	Osceola	St. Clair
Kite, Edward Everett	Craig	Holt
Lee, Ray Elmer	Maryville	Nodaway
Lee, Frank Edwin	Maryville	Nodaway
Livingston, Frank Craig Haskell	Elk Prairie	Phelps
Marr, Chester Arthur	Goss	Monroe
Miner, Elbert Spencer	Ridgeway	Harrison
Morthland, Vernon	Warren	Marion
McAllister, Charles Wade	Mendon	Chariton
McChesney, Thomas Sharp	Trinidad, *Colo.*	
Nardin, William Thompson	Columbia	Boone
Newkirk, Samuel Drake	Tipton	Moniteau
Newman, John Henry	Rea	Andrew
Phelps, Victor Edward	Huntington, *W. Va.*	
Pier, Jerome Warren	Corry, *Pa.*	
Plank, Louis	Lebanon	Laclede
Randall, Clarence Edwin	Eminence	Shannon
Roehrig, Emil	Marthasville	Warren
Simpson, William Lester	Mt. Pulaski, *Ill.*	
Stewart, Douglass, Jr	Chillicothe	Livingston
Taylor, Eben Lavert	Ft. Smith, *Ark.*	
Taylor, Jas. Arlington	Brookfield	Linn
Temple, Fred Wilton	Jackson, *Tenn.*	
Utterback, Leslie Lamar	Stoutsville	Monroe
Warden, Lucian Aubrey	Mercer	Mercer
Watson, Murry Drake	New London	Ralls
Waye, William, Jr.	St. Charles	St. Charles
Whitmore, George Rowe	Old Orchard	St. Louis
Wilcox, Samuel	St. Joseph	Buchanan
Wilks, William Crittenden	Caruthersville	Pemiscot
Williams, Clayton Maurice	Brooklyn, *N. Y.*	
Second Year Class.		
Baird, Arch Milton	Marionville	Lawrence
Bell, Robert Cook	Weatherby	Daviess
Blue, Christopher Columbus	Florida	Monroe
Bostian, William Bernard	Independence	Jackson
Boyd, Lawson Bernal	Larned, *Kans.*	
Butler, Charles Thompson	Brookhaven, *Miss*	
Cannon, Clarence Andrew	Elsberry	Lincoln
Clausen, Erwin Werner	Columbia	Boone
Clift, Jay Gould	Hastings, *Okla.*	
Daily, Wallace Edgar	Brunswick	Chariton

DEPARTMENT OF LAW.—Continued.

Name.	Postoffice.	County.
Dobyns, Daniel Thomas	Shelbina	Shelby
Duvall, Melvin Joseph	Gower	Buchanan
Easley, Charles Ralph	Santa Fe, *N. Mex.*	
Fristoe, Chas. Wisdom	Windsor	Henry
Gipson, Ennis Hubert	Lagonda	Chariton
Goodson, John Virgil	New Cambria	Macon
Harris, George Gordon	Smithton	Pettis
Hill, Rowland	Kansas City	Jackson
Holden, Lewis Marvel	Colorado Springs, *Colo*	
Holloway, Russell Edward	Columbia	Boone
Holmes, Jay Vanderbilt	La Belle	Lewis
Hosford, Grover Cleveland	Cleveland, *Ohio*	
Howell, Dee David J	Maryville,	Nodaway
Ikenberry, Josephus Henry	Sedalia	Pettis
Jacobs, Floyd Emory	Kansas City	Jackson
Kavanaugh, Roscoe Essex	New Hampton	Harrison
Killam, David Edwin	Winfield	Lincoln
Kilmer, Harry Edmund	Yorkshire, *Iowa*	
Kurtz, John Albert	Lockwood	Dade
Lamkin, Uel Walter	Clinton	Henry
Lang, Frederick Phillip	Kahoka	Clark
Maupin, John Archibald	Perry, *Okla.*	
Maupin, Robert Washington	Perry, *Okla.*	
Miles, Hoyt Barner	Joplin	Jasper
Milligan, Maurice Morton	Richmond	Ray
Mitchell, Frank Clayton	Centralia	Boone
Mossman, Hugh	Vinton, *Iowa*	
McDaniel, Oscar D.	Faucett	Buchanan
McMillen, Edwin Carroll	Columbia	Boone
McMillen, Albert Thomas	Columbia	Boone
McVay, Grattan Gregory	Tecumseh, *Okla*	
Orr, Warren Henry	Hannibal	Marion
Patton, Lowell Russell	Clarksville	Pike
Payne, Dennis Cullen	Milan	Sullivan
Pierce, Ralph Harold	Clinton	Henry
Poole, Clyde Bennett	Joplin	Jasper
Price, John Emmet	Harrisonville	Cass
Ream, Lawrence Larkin	Greenridge	Pettis
Rittenhouse, Frank Austin	Chandler, *Okla*	
Robertson, Albert Gallatin, Jr.	Malta Bend	Saline
Rogers, Warren	Dunavant, *Kan.*	
Shepherd, Harry Edward	Seneca	Newton
Spragg, Earle Gordon	Ridgeway	Harrison
Stephens, John Henry, Jr.	Kansas City	Jackson
Stewart, Harvey Kling	Louisiana	Pike
Stone, Wilbert Benjamin	Macon	Macon

DEPARTMENT OF LAW.—Continued.

Name.	Postoffice.	County.
Sturtevant, Mabel Eugenia	Columbia	Boone
Switzer, Fred Roscoe	Houston, *Texas*	
Tousley, Walter Elmer	Joplin	Jasper
Williams, Harold Spencer	Warrensburg	Johnson
Wise, Philip Pierce	Wellsville	Montgomery
Zook, Ellsworth Erving	Greenfield	Dade
First Year Class.		
Bailey, Walter Elijah	Carthage	Jasper
Bedford, Richard Franklin	Columbia	Boone
Brink, Arthur Theodore	Kansas City	Jackson
Brown, Henry Marshall	Wagoner, *I. T.*	
Brownfield, George Dewey	Pilot Grove	Cooper
Calvin, George Browne	Kansas City	Jackson
Carson, Mary Lou	Rosalee	Howard
Cleaveland, Alton Bruce	Breckenridge	Caldwell
Cole, Redmond Selecman	Columbia	Boone
Cooper, Malcolm Walker	Bloomfield	Stoddard
Cornell, Herman Dermott	Carthage	Jasper
Cowherd, Benjamin Earl	Santa Fe	Monroe
Dickinson, Clement Parks	Clinton	Henry
Dinwiddie, Walter Morris	Columbia	Boone
Donaldson, Thomas Felix	West Plains	Howell
Doyle, Patrick Joseph	St. Louis City	
Eberle, Earl George	Kansas City	Jackson
Elwang, William Wilson	Columbia	Boone
Emison, Daniel Hugh	New London	Ralls
Fillmore, Harrison Morton	Joplin	Jasper
Francis, Tim Alvano	Fargo, *N. D.*	
Freet, Samuel Raymond	Slater	Saline
Fry, William Wallace, Jr.	Mexico	Audrain
Gibson, Wilber James	Grant City	Worth
Goodnaugh, James George	St Louis City	
Graves, Perry Hardin	Lancaster	Schuyler
Guest, Willard Harvey	St. Louis City	
Gunby, Lloyd Edsall	Chillicothe	Livingston
Harrison, Wm. Percival	Duluth, *Minn.*	
Harvey, Hubert Marcellus	Marshall	Saline
Hill, Ralph Waldo	Kansas City	Jackson
Hoffman, Dimmitt Heard	Sedalia	Pettis
Hogan, Jesse Franklin	Maryville	Nodaway
Holmes, Walton H., Jr.	Kansas City	Jackson
Hornbuckle, Wm. Rufus	Kansas City	Jackson
Howell, Franklin Clinton	Ulman	Clinton
Hunker, Chester	Roanoke	Howard
Hunt, Harry Gilliam	Walnut Ridge, *Ark*	

DEPARTMENT OF LAW.—Continued.

Name.	Postoffice.	County.
Hunt, Hal Bas	Rockport	Atchison
Johnson, Thomas Robert	Earl	Callaway
Jones, Wm. Perry	Plattsburg	Clinton
Jones, Robert William	Columbia	Boone
Jones, Ernest William	El Paso, *Texas*	
Kagay, Benjamin Franklin	Effingham, *Ill.*	
Kincaid, Don Wilkinson	Corry, *Pa.*	
Klein, Edward	St. Louis City	
Kuns, George Henry	Oregon	Holt
Lincoln, Harold Thomas	Springfield	Greene
Lohman, Ira Henry	Jefferson City	Cole
Lombar, Frank De Leon	Columbia	Boone
Macbeth, Jas. Filmore	Kirkwood	St. Louis
MaGee, James Dwight	Louisiana	Pike
Mahan, Daniel Dulany	Hannibal	Marion
Mansur, Henry Allen	Chillicothe	Livingston
Meador, Eli Newton	Cassville	Barry
Moon, Fred Arnold	Springfield	Greene
Moore, Thomas Richard	Galena	Stone
Morgan, Franklin Benjamin	Joplin	Jasper
Myers, Wm. Thomas	Shelbina	Shelby
McAntire, John William	Joplin	Jasper
McClure, John Wesley, Jr.	Hughesville	Pettis
McVay, Donald C.	Trenton	Grundy
Nee, Daniel Martin	Springfield	Greene
Newcomer, Ralph Samuel	St. Joseph	Buchanan
Nisbet, Roscoe Conklin	Roswell, *N. M.*	
Oliver, Allen Laws	Cape Girardeau	Cape Girardeau
Paul, Abraham	Southwest City	McDonald
Porter, Edward Winslow	Lathrop	Clinton
Price, Lakenan Moss	Columbia	Boone
Pyles, Marshall Ashby	Pence Springs, *W. Va.*	
Railey, Thomas Tarlton	Harrisonville	Cass
Ridgell, Louie Everett	Richmond	Ray
Sadler, Daniel Kennard	Boonville, *Ark.*	
Saunders, James Key	Pierce City	Lawrence
Shields, Dell Almond	Sedalia	Pettis
Simpson, George H.	Oak Hill	Crawford
Smith, Vergil	Carrollton	Carroll
Tompson, Warren Vaughn	Maryville	Nodaway
True, Alva C.	Joplin	Jasper
Turman, Walter L.	Van Buren, *Ark.*	
Waddell, Leonard	Kansas City	Jackson
Williams, Edward E.	Maryville	Nodaway
Woodruff, William Francis	Warrensburg	Johnson
Woodruff, Fred Carter	Laredo	Grundy
Wright, William Walton	Appleton City	St. Clair
Yates, Virgil	Gallatin	Daviess

DEPARTMENT OF LAW.—Continued.

Name.	Postoffice.	County.
Special Students.		
Albert Emil Richard	Pierce City	Lawrence
Alderson, Witty Lysle	Kansas City	Jackson
Anderson, James Norman	Commerce	Scott
Boyd, Willie Boyd	Norwood	Wright
Burns, Leonard Lloyd	Indianola, *Iowa*	
Carter, Joseph O.	Joplin	Jasper
Combs, Robert Pryor	Kansas City	Jackson
Comer, Charles P.	St. Louis City	
Crone, Fred Henshaw	Tipton	Moniteau
Curtis, Arthur Melven	Norwood	Wright
Davis, Dean	Coatesville	Schuyler
Davis, Murray	Kansas City	Jackson
Davis, Barton Denny	Woodruff	Platte
Fawks, Cecil Otto	Westville	Chariton
Ferguson, Orval	Willow Springs	Howell
Field, Andrew	Callao	Macon
Frazier, Oliver	Columbia	Boone
Gloriad, John Arthur	Richwood	Washington
Gordon, Mark Hendricks	Fair Play	Polk
Green, Lester Carlisle	St. Louis City	
Hamaker, Jacob	Malvern, *Iowa*	
Holliway, Percy Wrice	Rockport	Atchison
Irwin, James	Xenia, *Ill.*	
James, George Lester	Long Beach, *Cal.*	
Joyce, Andrew	Paola, *Kans.*	
Kentnor, Frank Hall	St. Louis City	
Layton, Sutton Reid	Winona	Shannon
Leonard, Murray Ballington	Wagoner, *I. T.*	
Lusk, Ben Lafayette	Bunceton	Cooper
Mayfield, Waldo Clarence	Lebanon	Laclede
Mays, Charles	Faucett	Buchanan
Miller, Joe Wright	Appleton City	St. Clair
McIndoe, James	Joplin	Jackson
McKittrick, Roy B.	Musselfork	Chariton
Nuff, Jacob Hamilton	Jacksonville	Randolph
Plummer, John Edmond	Breckenridge	Caldwell
Punch, Samuel Alfred	Bloomfield	Stoddard
Radley, Karl	Joplin	Jasper
Rice, James Oscar	Lagonda	Chariton
Riffe, Raymond Fauchar	Kansas City	Jackson
Ristine, Carl Lindner	Joplin	Jasper
Sap, Hollis Wood	Ashland	Boone
Sheridan, Thomas Joseph	New Castle, *Pa.*	
Spradling, Clarence Leslie	Un'on	Franklin

DEPARTMENT OF LAW.—Continued.

Name.	Postoffice.	County.
Stafford, Morgan Allen	Walla Walla, *Wash.*	
Starrett, George Simpson	Easton	Buchanan
Stegen, Gustav William	Marthasville	Warren
Terrell, George Burden	Stanberry	Gentry
Wishart, Robert Wyatt	Kansas City	Jackson
Wright, Emory Henry	Columbia	Boone

Department of Medicine.

Name.	Postoffice.	County.
Fourth Year Class.		
James, Luther Scott	Marshall	Saline
Simison, Charles Wade	Clinton	Henry
Third Year Class.		
Battersby, Richard Stanley	Sedalia	Pettis
Brewer, Lake	Ridgeway	Harrison
Clint, Morgan Leland	Meadville	Linn
Daley, Lyle Miner	Hamilton	Caldwell
Frazier, William Lawrence	Columbia	Boone
Houf, Harry Walter	Fulton	Callaway
Kunz, Frank Oliver	Aspen, *Colo.*	
Marsh, Louis Talbot	Tipton	Moniteau
Marsh, Harry Stephenson	Tipton	Moniteau
Mitchell, Oliver Wendell Holmes	Lancaster	Schuyler
*Sneed, Arthur Allen	Columbia	Boone
Summers, Joseph S.	Coffeyburg	Daviess
Tuttle, Floyd Wilkins	Columbia	Boone
Wallace, Herbert Harwood	Holden	Johnson
Watkins, John Armstrong	El Paso, *Texas*	
Wiley, Ralph Emerson	Sullivan, *Ill.*	
Second Year Class.		
Anderson, Axel Isadore	Kansas City	Jackson
Armington, Arthur Kendall	Joplin	Jasper
Baugher, Albert Howard	Bucklin	Linn

*Died in Columbia, Mo., March 4, 1907.

DEPARTMENT OF MEDICINE.—Continued.

Name.	Postoffice.	County.
Bobbitt, Arthur Newton	Joplin	Jasper
Boucher, Frank Emerson	Marshalltown, *Iowa*	
Chilton, Frank Nifong	Harrisonville	Cass
Dandy, Walter Edward	Sedalia	Pettis
Derfler, Morris Edwin	Novinger	Adair
Dooley, Marion Sylvester	Houston	Texas
Elliott, Carey Baker	Holden	Johnson
Hill, Robert Burns	El Dorado Springs	Cedar
Howland, Joe Winsor	Trenton	Grundy
Husted, Carl Willis	Westfield, *Iowa*	
Ingram, Irvine George	Moberly	Randolph
King, William Rufus	Baton Rouge, *La.*	
March, Samuel Franklin	Columbia	Boone
Marshall, Harley	Avalon	Livingston
Nugent, Jesse Thomas	Paris	Monroe
Pinion, John Ralph	Caruthersville	Pemiscot
Simeral, Fred Ernest	Cottage Grove, *Oregon*	
Smith, William Alexander	Fayette	Howard
Stine, Daniel Gish	Tipton, *Ind.*	
White, Edgar Lee	Spokane, *Wash.*	
First Year Class.		
Alford, Leland Barton	Vandalia	Audrain
Bullard, H. Hays	Kirkwood	St. Louis
Cowan, Robert Dinwiddie	Aldrich	Polk
Dyer, Clyde Percy	Joplin	Jasper
Gentry, Lee Morrison	Sedalia	Pettis
Haines, Frances Edith	Columbia	Boone
Hawkins, James Clinton	Brumley	Miller
Johnson, Franklin Paradise	Brookfield	Linn
Kreiner, Miriam Rosella	New York, *N. Y.*	
Kutait, Mansur Muhanna	Beyrouth, *Syria*	
Martin, Floyd August	El Dorado Springs	Cedar
Orr, Thomas Grover	Bosworth	Carroll
Semmes, Raphael Eustace, Jr.	Memphis, *Tenn.*	
Sipple, Raphael Welch	Parsons, *Kans.*	
Young, Daisy	Springdale, *Ark.*	
Special Students.		
Andrews, Celia F.	Calhoun	Henry
Dent, D. Inez	Osceola	St. Clair
Eastman, Fred Ward	Kansas City	Jackson
Gibbs, Charles Albert	Bible Grove	Scotland
Hamrick, Helen Myrtle	Miller	Lawrence

DEPARTMENT OF MEDICINE.—Continued.

Name.	Postoffice.	County.
Jenkins, Daisy	Whitney, *Neb.*	
Pickrell, Claude Dildine	St. Louis City	
Swearengen, Ralph Waldo	Kahoka	Clark
Thornton, Edna Earl	Columbia	Boone
White, Edwin Clay, Jr.	Kansas City	Jackson

Department of Engineering.

Name.		Postoffice.	County.
Senior Class.			
Benson, Wm. Randolph, Jr.	C. E.	Madison	Monroe
Bilger, Harry Edmund	C. E.	Curwensville, *Pa.*	
Blackman, George Horton	M. E.	St. Louis City	
Bowman, Ralph Boyd	E. E.	Sumner, *Ill.*	
Branham, Robert Todd	M. E.	Columbia	Boone
Briell, Theodore Eugene	M. E.	St. Louis City	
Briggs, Clark Arthur	E. E.	Joplin	Jasper
Briggs, Frederick Edmund	M. E.	Joplin	Jasper
Brooking, Joseph Hugh	C. E.	LaBelle	Lewis
Brown, Marland Emery	M. E.	St. Louis City	
Brundige, Daniel Lee	E. E.	Adrian	Bates
Bullivant, Francis James	E. E.	Poplar Bluff	Butler
Burger, Rudolph Eugene	E. E.	Texarkana, *Texas*	
Caldwell, Marcus White	C. E.	Shelbina	Shelby
Carr, James	E. E.	Louisiana	Pike
Crawford, Harry Huston	E. E.	Sullivan	Franklin
Davidson, William Andrew	C. E.	Oregon	Holt
Davidson, William Clarence	C. E.	Worth	Worth
Dickson, Thomas Marvin	E. E.	Wakenda	Carroll
East, William Hutson	E. E.	Brookfield	Linn
Gearhart, Walter Scott	C. E.	Clearfield, *Pa.*	
Hardy, Arthur Raymond	C. E.	St. Louis City	
Hesch, Henry Charles	E. E.	St. Louis City	
Hunker, William Lamotte	E. E.	Roanoke	Howard
Jacoby, Fred Reuben	C. E.	O'Fallon	St. Charles
Jeffers, George Ernest	E. E.	Kansas City	Jackson
Kelso, Leslie Erskine Allan	E. E.	Musselfork	Chariton
Kennedy, Terrence Orlando	E. E.	Poplar Bluff	Butler
Krog, Fred Henry	E. E.	Washington	Franklin

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Krumm, Henry Alexander ...	M. E.	Pilot Grove	Cooper
Kuhl, Philip	M. E.	Columbia	Boone
Labsap, Alfred Harry	C. E.	Hannibal	Marion
LaRue, Harry	C. E.	Marshall	Saline
Lindquist, Oscar Franklin ...	C. E.	Springfield	Greene
Logan, Walter Cyrus	C. E.	Hannibal	Marion
Maddox, George Finley	E. E.	New London	Ralls
Marsh, Harold	C. E.	Tyler, *Texas*	
Miller, John Brent	C. E.	Shelbyville	Shelby
Moss, Oliver Perry	E. E.	Columbia	Boone
McKenzie, Andrew Jackson ..	C. E.	Centralia	Boone
Parker, Dwight Budd	C. E.	St. Louis City	
Phelan, James Benedict	C. E.	Moberly	Randolph
Piepmeier, Bion Harman	C. E.	Appleton City	St. Clair
Price, William Edmund	C. E.	Harrisonville	Cass
Reeves, James Albert, Jr. ...	E. E.	La Junta, *Colo.*	
Schmidt, Oscar Henry	C. E.	St. Joseph	Buchanan
Schnapp, Michael Herbert ...	E. E.	Carrollton	Carroll
Seibel, Charles William	E. E.	Hannibal	Marion
Tatum, Robert Edward Lee ..	C. E.	Glasgow	Howard
Terrill, Arthur Hammett	C. E.	Huntsville	Randolph
Victor, Given	E. E.	Moberly	Randolph
Walker, Ben Shore	C. E.	Columbia	Boone
Weinbach, Mendel Penco	E. E.	St. Louis City	
Wheeler, Donald John White..	C. E.	Medfield, *Mass.*	
Williams, William Warren ..	C. E.	Olney, *Ill.*	
Williamson, Bert Albert	E. E.	Maitland	Holt
Wilson, Ada	C. E.	Olathe, *Kans.*	
Wilson, Golder Pinkney	E. E.	Lakota	Cooper
Winkler, Louis Harry	M. E.	Carthage	Jasper
Junior Class.			
Adams, Frank Hicks	C. E.	Lamar	Barton
Alexander, Philip Thomas	C. E.	Farmington	St. Francois
Balnum, Will Harvey	C. E.	Maryville	Nodaway
Baker, Sylvester Clay	C. E.	Montgomery City	Montgomery
Barnett, Samuel Camillus	C. E.	Marshall	Saline
Beam, Jacob Clubb	E. E.	Kansas City	Jackson
Bianchi, Jose	E. E.	San Juan, *Arg. Republic*	
Brown, Carl Wright	C. E.	Vandalia	Audrain
Bryan, John Robert	C. E.	Norborne	Carroll
Budke, Conrad, Jr.	E. E.	St. Louis City	
Budke, Louis H.	E. E.	St. Louis City	
Capp, Frank William	C. E.	Plattsburg	Clinton
Corl, Wiley Franklin	E. E.	Joplin	Jasper

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Dean, John Bowen	C. E.	Marshall	Saline
Duffy, Ralph Early	E. E.	Greenfield	Dade
Elder, Truman	E. E.	St. Louis City	
Ellis, John Russell	C. E.	Columbia	Boone
Estes, Clarence	Ch. E.	Liberty	Clay
Eyssell, Walter	E. E.	Kansas City	Jackson
Fawks, Marvin Edward	E. E.	Salisbury	Chariton
Fleming, Edwin D. Rush	C. E.	Columbia	Boone
Fountain, John McCargo, Jr.	C. E.	Centralia	Boone
Fuson, Alba Manford	C. E.	Maysville	DeKalb
Graham, Alexander William	C. E.	Mineola	Montgomery
Harris, Lester Joslyn	E. E.	Lebanon	Laclede
Hechler, Fred George	M. E.	Dalton	Chariton
Hider, George Turner	M. E.	Greenville, *Miss.*	
Hilliker, Cary Bernard	E. E.	Fredonia, *N. Y.*	
Hoffman, Hopson Mountjoy	M. E.	Maplewood	St. Louis
Holden, William	C. E.	Kansas City	Jackson
Houston, Roscoe Fenton	C. E.	Kansas City	Jackson
Kennedy, Jefferson Byron	E. E.	Nevada	Vernon
Kesler, Daniel William	C. E.	Jamesport	Daviess
Ketter, E. F.	C. E.	Mexico	Audrain
Koerner, Carl Albin	C. E.	St. Louis City	
Lewis, Henry Barnes	E. E.	Carrollton	Carroll
Livingston, Harold Todd	C. E.	Mountain Grove	Wright
Long, Merrill Ewart	E. E.	Cameron	Clinton
Lowery, Lowell Leotus	C. E.	Osnaburg, *Ohio*	
Lusk, Ewing Lafetra	C. E.	Roswell, *New Mexico*	
Mallery, Merle Jasper	E. E.	De Soto	Jefferson
Martin, Henry Giles	E. E.	St. Louis City	
Moreell, Samuel Jr.	C. E.	St. Louis City	
Morehead, William Clyde	E. E.	Carrollton	Carroll
Morrow, Samuel Roy	C. E.	Carthage	Jasper
Mosley, Allen Walter	C. E.	Stanberry	Gentry
Mueller, Irvin Charles	C. E.	California	Moniteau
Myers, Thomas Albert	M. E.	Nevada	Vernon
McAdam, Clarence Eugene	E. E.	Prairie Hill	Chariton
McMinn, Walter James	E. E.	Columbia	Boone
McVey, Karl Absalom	E. E.	Sedalia	Pettis
Nelson, Herbert Frank	E. E.	Sweet Springs	Saline
Porzelius, Albert Frederick	C. E.	St. Joseph	Buchanan
Redman, James Elden	E. E.	Marshall	Saline
Riddle, Roderick Edwin	C. E.	Independence	Jackson
Robinson, Eugene Webster	C. E.	Breckenridge	Caldwell
Ross, Floyd Elmer	C. E.	Willard	Greene
Roth, Henry	E. E.	Wardsville	Cole
Rutherford, Harry Kugler	E. E.	Slater	Saline

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Salisbury, Eugene Franklin ..	C. E.	Webster Groves	St. Louis
Smith, Perd O.	E. E.	Cantril, *Iowa*	
Stollings, Griffin Hiram	C. E.	Kearney	Clay
Terrill, Anderson Wood	C. E.	Columbia	Boone
Thornton, Frank, Jr.	E. E.	St. Joseph	Buchanan
Unger, Francis Charles	E. E.	St. Louis City	
Uts, Amos Logan	E. E.	McFall	Gentry
Van Wagenen, James Hubert..	C. E.	Corning, *Iowa*	
Wells, Homer Theodore	C. E.	Webb City	Jasper
Wiberg, Herbert George	Ch. E.	Brooklyn, *N. Y.*	
Williams, William Guy	C. E.	Liberty	Clay
Wise, John Smith	C. E.	Bowling Green	Pike
Wobus, Hugo John	E. E.	Washington	Franklin
Work, David Wayne	C. E.	Lamar	Barton
Sophomore Class.			
Atchison, John Calhoun, Jr.	E. E.	Gower	Clinton
Bain, Patterson, Jr.	C. E.	Ferguson	St. Louis
Bayliss, Paul	C. E.	Columbia	Boone
Beckett, Earl Francis	E. E.	Boonville	Cooper
Bell, Goodman	C. E.	Independence	Jackson
Boggess, Montrose Mortimer	E. E.	Excelsior Springs	Clay
Bott, William Antoni	C. E.	Kansas City	Jackson
Bowles. John Davis	E. E.	Westphalia	Osage
Branham, George Alva	E. E.	Hannibal	Marion
Brasfield, Edwin D.	C. E.	Unionville	Putnam
Breckenridge, John, Jr.	C. E.	Farmington	St. Francois
Briggs, Leon Elston	C. E.	Joplin	Jasper
Brown, Elbert Calvin	C. E.	Clifton Hill	Randolph
Bryant, William Perrine	E. E.	Bethany	Harrison
Bunce, Beverly	E. E.	Nevada	Vernon
Case, Charles Andrew	C. E.	Charleston, *Ill.*	
Chapman. Verni Jay	E. E.	Pierce City	Lawrence
Chinn, Raleigh, W. Corbett.	Ch. E.	Hannibal	Marion
Chrisman, Oscar Day	C. E.	Springfield	Greene
Currey, John Wagonner	C. E.	Kahoka	Clark
Curry, William Ronald	E. E.	Oregon	Holt
Daniels, Ralph Edward	E. E.	Ft. Smith, *Ark.*	
Doane, George Earl	Ch. E.	Joplin	Jasper
Elston, Allan Vaughn	C. E.	Kansas City	Jackson
Fairman, James Robert	C. E.	Kansas City	Jackson
Farris, Willis Grant	E. E.	St. Joseph	Buchanan
Feuers. Herbert Charles	E. E.	Linn	Osage
Frech, Harry Edward	C. E.	DeSoto	Jefferson
Fries, Ober Jessie	E. E.	Mound City	Holt

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Gardner, John Miles	C. E.	Joplin	Jasper
Gildehaus, Richard, Jr.	M. E.	St. Louis City	
Gladfelter, Herbert Spencer	M. E.	St. Louis City	
Gove, Henry Shimer	E. E.	Richland	Pulaski
Gregory, Whitney Irwin	C. E.	Kahoka	Clark
Grigg, John Ryland	C. E.	Joplin	Jasper
Hanley, Floyd Finley	C. E.	Shelbina	Shelby
Harrah, Orin Wilson	C. E.	Golden City	Barton
Henke, Arthur Raymond	E. E.	St. Louis City	
Herzog, Oswald Aaron	C. E.	Kerrville, *Texas*	
Hunter, Harry Griffith	C. E.	Independence	Jackson
Jackson, George Neal	M. E.	Miami	Saline
Jewett, William Orrington	C. E.	Shelbina	Shelby
Johnson, Herrick	C. E.	Tuxedo Park	St. Louis
Johnson, Ewert Frank	Ch. E.	Columbia	Boone
Jones, Webster Newton	E. E.	Rich Hill	Bates
Keaton, Charles Larkin	C. E.	Dexter	Stoddard
Kerns, Edwin Hopkins	E. E.	Nevada	Vernon
Kleinschmidt, Fred	E. E.	St. Louis City	
Krausnick, Walter, Jr.	E. E.	St. Louis City	
Kyd, John Bailey	M. E.	Greenridge	Pettis
Lawrence, Samuel Eugene	E. E.	Doniphan	Ripley
LeBaron, Rudolph Wendall	C. E.	Chardon, *Ohio*	
Lee, Raymond Eliot	C. E.	Kansas City	Jackson
Liebenstein, Oscar Henry	E. E.	Clarksville	Pike
Loftin, Sawnie Robertson	E. E.	Tyler, *Texas*	
Mann, Chester DeWitt	C. E.	Kansas City	Jackson
Maple, Elbert Carman	E. E.	Oregon	Holt
Martin, Frank Aubrey	C. E.	Huntsville	Randolph
Meyer, Edgar Robert	E. E.	Mound City	Holt
Miller, Howard Emerson	Ch. E.	Columbia	Boone
Mills, Harold Clyde	M. E.	Joplin	Jasper
Mitchell, Addison	E. E.	Murfreesboro, *Tenn.*	
Moore, Milton Spoerle	C. E.	Oregon	Holt
Moore, Albert Calumet	C. E.	Joplin	Jasper
Morrison, Lacey Harvey	M. E.	California	Moniteau
Mount, Harry Hopkins	E. E.	Albany	Gentry
McDole, Maynard Mathew	E. E.	Craig	Holt
McDonald, Elbert Charles	E. E.	Gallatin	Daviess
Nichols, Oakley Mathias	E. E.	Chillicothe	Livingston
Palmer, Leroy Sheldon	Ch. E.	St. Louis City	
Palmer, Robert Conrad	Ch. E.	St. Louis City	
Phelps, Roy Lewis	M. E.	West Plains	Howell
Phillips, Clifford French	C. E.	Hermann	Gasconade
Phillips, Paul Powless	C. E.	St. Louis City	
Potts, Robert Andrew, Jr.	C. E.	St. Joseph	Buchanan

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Pypes, Columbus DeWitt	C. E.	Kansas City	Jackson
Ream, George Garland	E. E.	Greenridge	Pettis
Rees, Anson Harvey	E. E.	St. Louis City	
Regan, William Michael ...	M. E.	Joplin	Jasper
Reppy, George Franklin	C. E.	St. Louis City	
Rice, Eugene Warfield	C. E.	Harrisonville	Cass
Rider, Victor Martin	C. E.	Lees Summit	Jackson
Roberts, Prewitt	C. E.	Lexington	Lafayette
Roth, Frederick Isadore	C. E.	St. Joseph	Buchanan
Rucker, Casper Bell	E. E.	Brunswick	Chariton
Rust, Wollard	C. E.	Hardin	Ray
Schaefer, Oscar Charles	E. E.	Washington	Franklin
Schmauder, Walter George ..	E. E.	Burlington Junction	Nodaway
Schmidt, Theodore John	C. E.	Flucom	Jefferson
Scott, Wilford Hall	E. E.	Canton	Lewis
Scott, Angelo	C. E.	Canton	Lewis
Shockley, Loy Lenwood	M. E.	Columbia	Boone
Simon, Bernard Daniel	C. E.	St. Louis City	
Smyth, Edward Argo	E. E.	Caruthersville	Pemiscot
Spencer, Kenneth	Ch. E.	St. Louis City	
Sperry, Guy Leslie	E. E.	Lockwood	Dade
Stava, William	C. E.	Springfield	Greene
Steiner, Edgar	E. E.	St. Louis City	
Stocks, Roy Baldwin	E. E.	Columbia	Boone
Stump, Robert Leonard	E. E.	Nevada	Vernon
Surber, Virgil Watkins	E. E.	Moberly	Randolph
Surface, Charles Randall	E. E.	Gallatin	Daviess
Tupes, Ernest E.	C. E.	Raymore	Cass
Waller, John Malcolm	C. E.	Kansas City	Jackson
Waltner, Harold Cecil	C. E.	Kansas City	Jackson
Waters, Robert Powers	C. E.	St. Joseph	Buchanan
Webb, Clarence Russell	E. E.	Sanangelo, *Texas*	
Wells, Franc Harris	C. E.	Rockport	Atchison
Westover, Roland Bruce	C. E.	St. Joseph	Buchanan
White, David Earle	C. E.	Norborne	Carroll
Wilcox, Harry Eugene	C. E.	Hannibal	Marion
Wilkes, Edmund, Jr.	C. E.	Columbia	Boone
Winans, Lawrence Lewis	C. E.	Mexico	Audrain
Yates, Clinton Talbott	E. E.	Columbia	Boone
Zachritz, William Oscar	E. E.	St. Louis City	
Freshman Class.			
Akamatsu, Masatomy	E. E.	Iyo. *Japan*	
Alley, Frank Robertson	E. E.	Princeton	Mercer
Andrews, Hardage Lane	E. E.	Boonville	Cooper

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Barrett, John Harvey	E. E.	Roswell, *New Mexico*	
Baughman, William Leavell ..	C. E.	Camden Point	Platte
Bayley, Alphonso Vincil	M. E.	Columbia	Boone
Becker, Coulter Meldrom ...	C. E.	St. Louis City	
Beekman, Royce Allen	E. E.	Webster Groves	St. Louis
Bell, Nicholas Theodore	C. E.	San Angelo, *Texas*	
Bell, Thomas Francis	E. E.	San Angelo, *Texas*	
Besheer, William Claude	C. E.	Willow Springs	Howell
Bisnop, Roy Cleveland	C. E.	Montgomery City	Montgomery
Board, Virgil Lee	E. E.	Windsor	Henry
Bock, Carl William	Ch. E.	St. Louis City	
Boner, Charles John	Ch. E.	Carrollton	Carroll
Booth, Jesse James	E. E.	Shelbina	Shelby
Born, Charles Rudolph	E. E.	Savannah	Andrew
Bowes, Edward Loomis	M. E	St. Louis City	
Brandenburg, Ernest Clay...	C. E.	Liberty	Clay
Briggs, Archibald Elkanah ..	E. E.	New London	Ralls
Brown, Guy	C. E.	Kansas City	Jackson
Burress, Frank	M. E.	Joplin	Jasper
Callaway, David Scott .....M. E.		Nevada	Vernon
Carpenter, Roy William	E. E.	Maysville	DeKalb
Cheverton, Arthur	E. E.	Rich Hill	Bates
Colman, Amos Mathien	E. E.	DeSoto	Jefferson
Cooper, Frank, Jr.	E. E.	Pierce City	Lawrence
Curran, Robert Wynne, Jr. ..	E. E.	Breckenridge	Caldwell
Dalton, Samuel Jasper	C. E.	Boonville, *Miss.*	
Datta, Jogesh Chandra	M. E.	Shekharnogar, *India*	
Dearing. Stephen Lee	M. E.	Palmyra	Marion
Diemer, Robert Bernard	C. E.	Palmyra	Marion
Dinwiddie, Charles Moss ...	M. E.	Columbia	Boone
Douglass, Shannon Clay, Jr.	E. E.	Kansas City	Jackson
Dudley, Rufus Easton	E. E.	Troy	Lincoln
Dumas, Louis Walker, Jr. ..	C. E.	Kahoka	Clark
Duncan, Marvin Williams ..	E. E.	Morrisville	Polk
Dunkle, Robert Eugene	E. E.	Carrollton	Carroll
Evans, James Bowling	C. E.	Columbia	Boone
Finley, Roy Jefferson	C. E.	Tipton	Moniteau
Flammang, Joseph Arthur ...	C. E.	Rich Hill....	Bates
Flint, Raymond Everett	M. E.	St. Louis City	
Foster, Hal DeWolfe	Ch. E.	Hannibal	Marion
Freytag, Frank, Jr.	C. E.	St. Joseph	Buchanan
Gibbons, Floyd Oliver	C. E.	Chillicothe	Livingston
Gray, Roy Cecil	C. E.	Salisbury	Chariton
Grider, Martin David	C. E.	Appleton City	St. Clair
Groszewski, Julian	C. E.	Buffalo, *N. Y.*	
Gundlach, William Edward ..E. E.		St. Louis City	

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Gundlach, George Christian ..	E. E.	St. Louis City	.....
Haglage, Walter Henry	C. E.	Kansas City	Jackson
Harris, Fred Durand	C. E.	Lebanon	Laclede
Haun, Howard Samuel	E. E.	Trenton	Grundy
Helmreich, Louis Walter	E. E.	Boonville	Cooper
Herman, George Paul	C. E.	DeSoto	Jefferson
Hill, Delbert Eugene	C. E.	Butler	Bates
Hill, Wm. Steinert	E. E.	St. Joseph	Buchanan
Hilsenbeck, John Benjamin ..	E. E.	St. Joseph	Buchanan
Holmes, Wm. Gregory	C. E.	Kansas City	Jackson
Hope, Robert Linwood	C. E.	Centralia	Boone
Houston, Ralph Graham	C. E.	Columbia	Boone
Huggins, Charles Benton ...	C. E.	Shawnee, *Okla.*	
Jackson, Warren Roscoe	C. E.	St. Joseph	Buchanan
January, George Baird	C. E.	Nevada	Vernon
Johnson, William Le Roy ...	E. E.	Maitland	Holt
Johnson, Oliver Preston	C. E.	Mt. Vernon	Lawrence
Jones, Ira	E. E.	Covina, *Cal.*	
Koch, Oscar Henry	C. E.	Columbia	Boone
Kochtitzky, Oscar Frederick .	C. E.	Cape Girardeau ..	Cape Girardeau
Lawrence, James Cuthbert ..	Ch. E.	Joplin	Jasper
Lewis, James Clyde	E. E.	Columbia	Boone
Lowery, Ward	E. E.	Osnaburg, *Ohio*	....
Lucas, Boyd Watts	C. E.	Nevada	Vernon
Mackie, David James	E. E.	Carbon, *I. T.*	
Mayer, Maurice	E. E.	King City	Gentry
Millard, Harry James	Ch. E.	Hannibal	Marion
Miller, Arthur Gustavus	C. E.	St. Louis City	
Montgomery, Harry Hinman..	E. E.	Clinton	Henry
Morris, Brinkley Bedford	C. E.	Columbia	Boone
Muth, Frank Amenda	C. E.	Doxey, *Okla.*	
McCoy, Alexander Watts ...	C. E.	Kansas City	Jackson
McCubbin, Donald Lingan ..	Ch. E.	Carthage	Jasper
McVey, Charles Lloyd	E. E.	Sedalia	Pettis
Noon, Francis Charles	M. E.	Provo, *Utah*	
O'Briant, Henry Marvin	E. E.	Lancaster	Schuyler
Patterson, Edwin Wilhite ..	E. E.	Kansas City	Jackson
Patterson, Harry Jefferson ..	C. E.	Shelbina	Shelby
Pechmann, Frederick Arnold	C. E.	St. Louis City	
Peltier, Noel Jean	C. E.	St. Louis City	
Pike, Lawrence	C. E.	Kansas City	Jackson
Pope, Roslyn Williams	E. E.	Forest City	Holt
Prehn, Robert Lincoln	C. E.	Webster Groves	St. Louis
Price, Howard Wade	M. E.	Randolph, *Ohio*	
Proctor. Carter Atwater	E. E.	Doniphan	Ripley
Pulliam, George G..	E. E.	Hartsburg	Boone

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Raiffeisen, Otto John	C. E.	Sedalia	Pettis
Reagan, Cody Sylvester	C. E.	Macon	Macon
Redd, Edward Morgan	C. E.	St. Louis City	
Ridgeway, George Allen	C. E.	Columbia	Boone
Roberts, Warren	C. E.	Mooresville	Livingston
Roehry, Emil	E. E.	Ironton	Iron
Ross, Blair Arthur	C. E.	Novelty	Knox
Rucker, Vernon Smuts	M. E.	Brunswick	Chariton
Rust, Fleet Singleton	M. E.	Hardin	Ray
Sachs, Alexander Fred	C. E.	Kansas City	Jackson
Sackett, Loy Earl	C. E.	Cameron	Clinton
Sanford, Erle Edwin	M. E.	Stanberry	Gentry
Schmidt, Hermann Geo. F.	C. E.	St. Joseph	Buchanan
Scott. Lewis Peloto	C. E.	Carlisle. *Ky.*	
See, Elliot M.	E. E.	Jefferson City	Cole
See, Russell Alva	C. E.	New Florence	Montgomery
Shirkey, Howard M.	C. E.	Norborne	Carroll
Smith, James Jay, Jr.	Ch. E.	Hannibal	Marion
Smith, Lewis Ruffner	C. E.	Independence	Jackson
Smith, Walter	C. E.	Golden, *Ill.*	
Steed, Arthur	M. E.	St. Charles	St. Charles
Steinan, Sidney	C. E.	Mobile, *Ala.*	
Stewart, Robin	C. E.	Chillicothe	Livingston
Stone, Guy	E. E.	Walton, *Kan.*	
Stump, Harry C.	M. E.	Nevada	Vernon
Swanson, William Lewis	E. E.	Ottumwa, *Iowa*	
Templeton, Geo. Streeter	E. E.	Rich Hill	Bates
Tiffany, Carlos Palmer	E. E.	Moscow Mills	Lincoln
True, Alva C.	M. E.	Joplin	Jasper
Van Hook, Lawrence N., Jr.	E. E.	Ferguson	St. Louis
Wallace, Edward P.	E. E.	Pierce City	Lawrence
Wallace, Frank Douglas	C. E.	Centralia	Boone
Waltner, Wilfred	C. E.	Kansas City	Jackson
Waters, Albert Richard	C. E.	Carthage	Jasper
Webb, David Marion	C. E.	Oak Grove	Jasper
Wetherell, Dwight Nelson	C. E.	Carthage	Jasper
Whitmore, Archie Alden	C. E.	Hoberg	Lawrence
Williams, Benj. Robinson	C. E.	Silex	Lincoln
Wilson, Norval	C. E.	Settle's Station	Platte
Wornall, Douglas Buchanan	E. E.	Kansas City	Jackson
Ziegenbein, Earle	C. E.	Cameron	Clinton
Special Students.			
Allison, John Hampton, Jr.	M. E.	Butler	Bates
Bartow, Russell V.	E. E.	Brunswick	Chariton

DEPARTMENT OF ENGINEERING.—Continued.

Name.		Postoffice.	County.
Baxter, William Harrison ..	C. E.	Kansas City	Jackson
Bennett, Wayne	E. E.	Milwaukee, *Wis.*	.....
Beverburg, Hubert Edward F.	E. E.	Matson	St. Charles
Bewick, Stephen Pope	C. E.	Milo	Vernon
Branham, Wm. Grover	C. E.	Joplin	Jasper
Burroughs, Wm. Francis	E. E.	Slater	Saline
Butler, Jos. Ward	E. E.	Chicago, *Ill.*	
Conger, Walter Gurden	E. E.	Harrisonville	Cass
Dunlap, Ray	C. E.	Mexico	Audrain
King, James Thomas	M. E.	St. Louis City	
Koerner, Carl Albin	C. E.	St. Louis City	
Lynch, Cecil Shannon	E. E.	Robertsville	Franklin
Minor, William Arthur	M. E.	Springfield	Greene
McNatt, Francis Clifford ...	M. E.	Aurora	Lawrence
O'Daniel, Nolen	C. E.	Coffeyburg	Daviess
Price, Joseph Paul	C. E.	Randolph, *Ohio*	
Prosser, Wm. Gittings	C. E.	St. Louis City	
Radley, Karl	E. E.	Joplin	Jasper
Scoggin, Claude Paul	C. E.	Caruthersville	Pemiscot
Shurtz, Clarence Leone	E. E.	Mason, *Ohio*	
Sollars, Charles Samuel	C. E.	Columbia	Boone
Title, Charles Earl	Ch. E.	St. Louis City	
Utz, Amos Logan	E. E.	McFall	Gentry
Williams, Frank	C. E.	Columbia	Boone

School of Mines and Metallurgy

Name.	Postoffice.	County.
Graduate Students.		
Black, James Kennedy	Clayton	St. Louis
Buskett, Evans	Coffeyville, *Kans.*	
Dunkin, Dammon Duffield....	Granby	Newton
Green, Cecil Theodore..... ..	Los Angeles, *Cal.*	
Heck, Elmer Cooper	Lathrop	Clinton
Hoffman, Ray	Buffalo, *N. Y.*.....	
Moore, Stanley Ralston	Wallace, *Idaho*	
Thomas, Alfred Augustus	Ketchican, *Alaska*.....	
Seniors.		
Bailey, William Gardiner	Paterson, *N J.*	
Baker, Arnold George	St. Louis City.....	
Bartlett, Albert Babbit	Cheyenne, *Wyo.*	
Benedict, Ralph Robert	Kansas City	Jackson

SCHOOL OF MINES AND METALLURGY.—Continued.

Name.	Postoffice.	County.
Brown, William Ernest	Denver, *Colo.*	
Cavazos, Enrique	Saltillo, *Mexico*	
Clark, Horace Herbert	St. Louis City	
Cook, Eldon Everett	Plattsburg	Clinton
Cook, Paul Richardson	Rolla	Phelps
DeWaters, Roy Hayward	Iola, *Kans.*	
Ericson, John Theodore Emanuel	Zumla, *Sweden*	
Fellows, Aubrey B.	Salisbury	Chariton
Hatch, William Peter	Kansas City	Jackson
Hughes, Victor Harmon	Sabetha, *Kans.*	
Jones, Elston Everett	Albuquerque, *N. M.*	
Klockman, Otto Ernest	St. Louis City	
Ladd, Howard William	Ottumwa, *Iowa*	
Long, James Carter	St. Louis City	
McElroy, William	Ft. Scott, *Kans.*	
McIlghe, William Arthur	Memphis, *Tenn.*	
Perkins, William Crutcher	Plattsburg	Clinton
Phillips, Walter Irving	Wheaton, *Ill.*	
Richards, Walter Coffean	St. Louis City	
Sebree, John Payne	La Junta, *Colo.*	
Seltzer, Andrew Jackson	Denver, *Colo.*	
Snyder, Byron John	Desloge	St. Francois
Sunada, Sakuhei	Yamanashi, *Japan*	
Tseung, Tsik Chan (H. D. Oberlin)	Hunan, *China*	
Vitt, John Thomas	Union	Franklin
Wash, Edwin Richard	Pontiac, *Ill.*	
Wilson, Frank Lewis Leonard	Des Moines, *Iowa*	
Wright, Ira Lee	Sedalia	Pettis
Zirulick, Hyman	Minsk, *Russia*	
Juniors.		
Anderson, Hector George Sylvester.	Kearney, *Neb.*	
Baker, Charles Armstrong	Fort Madison, *Iowa*	
Barrett, Edward Phillip	Hastings, *Neb.*	
Boland, Earl Frederick	Syracuse, *N. Y.*	
Boles, John Hyer	Lake Springs	Dent
Boyer, George Hewitt	St. Louis City	
Cooke, Thomas Grant	Mansfield, *Ohio*	
Ham, Roscoe Conkling	Kansas City	Jackson
Hinsch, Van Buren	Davenport, *Iowa*	
Holm, William Miller	Chicago, *Ill.*	
Hynes, Dibrell Pryor	Ft. Smith, *Ark.*	
Johnson, Horace Asabel	Brookfield	Linn
Kellogg, George Frederick	Skidmore	Nodaway
Lyneman, Felix Anthony	Denver, *Colo.*	
Mann, Horace Tharp	Canon City, *Colo.*	
Mix, Ward Barr	Hallesboro, *N. Y.*	

SCHOOL OF MINES AND METALLURGY.—Continued.

Name.	Postoffice.	County.
Mook, Robert Lee	St. Louis City	
Moore, Frederick Arnold	Holden	Johnson
Murray, Edwin Phelps	Lake City, *Mich.*	
Neer, Don Morgan	Winfield, *Kans.*	
Nye, Alfred Leo	Kearney, *Neb.*	
Philippi, Paul Andrew	St. Louis City	
Radovich, John Christopher	Bisbee, *Arizona.*	
Sandford, John Joseph	Dansville, *N. Y.*	
Sedivy, Miles	Cleveland, *Ohio*	
Simington, Francis James	Chicago, *Ill.*	
Spofford, Howard Nelson	Haverhill, *Mass.*	
Smith, Harry Gilham	Vinita, *Ind. Ter.*	
Taggart, James Albert	Freeport, *Ill.*	
Thornhill, Edwin Bryant	Gray Summit	Franklin
Walker, Leland Ross	St. Louis City	
Wood, Clyde Rex	Sheridan, *Wyo.*	
Worel, Lish	Plattsmouth, *Neb.*	
Sophomores.		
Baueris, William Albert	Chicago, *Ill.*	
Boles, James Joseph	Lake Spring	Dent
Boose, Frank A.	Lincoln, *Neb.*	
Chamberlain, Ernest Lorenzo	Rolla	Phelps
Clarke, William Daniels	Rolla	Phelps
Compton, James Crawford	Independence	Jackson
Dobbins, Walter	Champaign, *Ill.*	
Don, De Forrest	Rock Island, *Ill.*	
Dosenbach, Benjamin Harrison	St. Louis City	
Dougherty, James Walter	Cincinnati, *Ohio*	
Dudley, Boyd, Jr.	Gallatin	Daviess
French, Charles Lewis	St. Louis City	
Garst, Harvey Oden	Cabool	Texas
Hall, William Simpson	Pleasanton, *Kans.*	
Holmes, Oliver Wendell	Rolla	Phelps
Hughes, Frank Winnett	Irondale	Washington
Judy, Philip Smith	Camp Point, *Ill.*	
Kendrick, Robert Thomas	East St. Louis, *Ill.*	
Killian, Ralph Daniel	Perryville	Perry
Ladd, William Hammond	Rolla	Phelps
Langsdale, Byron Withers	Kansas City	Jackson
Leming, Paul Bauchmann	Cape Girardeau	Cape Girardeau
Loveridge, Frank Richard	Batavia, *N. Y.*	
McCrae, Rowe Francis	Rolla	Phelps
McCutchen, William Lawrence	Wichita Falls, *Texas*	
Michael, Pearl Frederick	Rolla	Phelps
Morgan, Karl Rupert	Laurel, *Miss.*	

SCHOOL OF MINES AND METALLURGY.—Continued.

Name.	Postoffice.	County.
Murphy, Benton Franklin	Bonneterre	St. Francois
Nachtman, Frank	Junction City, *Kans.*	
Ohnsorg, Norman Lloyd	Rolla	Phelps
Olin, David	Kansas City	Jackson
Pfeiffer, John Baptist	Fullerton, *Cal.*	
Phillips, Ralph N.	Denver, *Colo.*	
Pollard, Arthur Lewis	Batavia, *N. Y.*	
Shah, Aaron Max	Vilma, *Russia*	
Shaw, Albert Henry	St. Louis City	
Stahl, William Glenroy	Little Rock, *Ark.*	
Talvar, Fateh Chand	Gujranwala, *India*	
Wander, Ernest	Chicago, *Ill.*	
Watson, Ralph Wilhelm	Salt Lake City, *Utah*	
Whitener, Oscar Miles Cornelius	Fredericktown	Madison
Wishon, Asro Emery	Fresno, *Cal.*	
Wolf, Edgar Joseph	Mt. Vernon, *Ind.*	
Freshman Class.		
Allen, Robert Sexton	Kansas City	Jackson
Aycock, Robert Vaughn	Lebanon	Laclede
Beckner, Fred Goodrich	Salt Lake City, *Utah*	
Bedford, Arthur Hardy	Aukland, *New Zealand*	
Blake, Frank Orris, Jr.	Pittsburg, *Penn.*	
Blaylock, Daniel Webster	Flat River	St. Francois
Bryant, Albert Daly	Washington, *D. C.*	
Bunten, James	Canon City, *Colo.*	
Burdick, Charles Adrian	Dansville, *N. Y.*	
Butcher, Jacob C.	San Francisco, *Cal.*	
Clark, William Newton	Jewell City, *Kans.*	
Clark, John Charles	St. Louis City	
Chew, Lindell	St. Louis City	
Connelly, Harry Wade	Independence, *Kans.*	
Detweiler, Alfred Nicks	Drynob	Laclede
Detweiler, Milan Harrison	Drynob	Laclede
Diaz, Emilio	Santiago *de Chile*	
Drake, Robert Lemon	Kansas City	Jackson
Dunn, Theodore Saunders	Waukegan, *Ill.*	
Dye, Robert Emmet	Joplin	Jasper
Dykes, Guy	Rolla	Phelps
Elicano, Victoriano	Masinloe, Zambales, *P. I.*	
Elliott, Edward Arthur	Haileyville. *I. T.*	
Elliott, Joseph Walter	Haileyville. *I. T.*	
Farrar, Monroe	Mattoon, *Ill.*	
Forman, John Kavanaugh	McFall	Gentry
Frazer, Keith Colt	Lyndonville, *N. Y.*	
Gardner, Frank Beveridge	Staunton, *Ill.*	

SCHOOL OF MINES AND METALLURGY.—Continued.

Name.	Postoffice.	County.
Gregory, Clay, Jr..	Joplin ..	Jasper
Goldman, Jay Maurice	St. Louis City	
Gosrow, Ralfe Cleveland	Buffalo, *N. Y.*	
Harris, Walter ..	St. Lake City, *Utah*	
Harrison, James Berry, Jr.	Rolla ..	Phelps
Harrison, Walter Edward	Salem	Dent
Humphrey, Brighton W.	St. Louis City	
Hurwitz, Jacob Mordecai	St. Louis City	
Insley, Earl Frank	Kansas City	Jackson
Jobes, Charles Taylor	Kansas City	Jackson
Jones, William Hamilton	St. Louis City	
Karte, Anton ..	De Soto	Jefferson
Killian, Alfred Robert	Perryville ..	Perry
Lay, Beele Nathaniel	Denver, *Colo.* ..	
Lembcke, Robert ..	Fargo, *North Dakota*	
List, Elmer	Cape Girardeau ...	Cape Girardeau
McDonnell, George Henry	Crown King, *Ariz.*	
McNutt, Vachel Harry	Monroe City	Monroe
Mellor, Frederick	Liberal	Barton
Miller, Christian R., Jr.	Sedalia	Pettis
Minor, Harmon Edwin	Canon City, *Colo.*	
Morgan, Allen Ray Dearborn	Rolla ..	Phelps
Morrison, Emory Lee	Auxvasse	Callaway
Nachtman, Ralph Collistus	Junction City, *Kans.* ..	
Newton, Lloyd Charles	Gurdon, *Ark.* ..	
Ormsby, Robert Graham	Kansas City	Jackson
Owen, Harvey Skidmore	St. Louis City	
Park, Albert	Plattsburg	Clinton
Peeso, William D.	Junction City, *Kans.*	
Pierce, Colwell Arba	Kansas City	Jackson
Porth, Harry William Lee	Kansas City	Jackson
Porri, Louis Joseph	St. Louis City	
Riede, Frederick Edward	Canon City, *Colo.*	
Roherer, Walter Elmer	South McAlester, *Ind. Ter.*	
Seitz, Harold Moore	Kansas City	Jackson
Seltzer, Hyman Aaron	St. Louis City	
Smith, Duncan Slater	Rockport, *Ill.*	
Smith, Harvey Edson	St. Louis City	
Smith, Van Hoose	Little Rock, *Ark.*	
Stewart, John Sloane, Jr.	Mansfield, *Ohio* ..	
Thornberry, Martin Harmon	Wanda ..	Newton
Tomlinson, Edward Lorraine	Prescott, *Ariz.* ..	
Townsend, Richard Henry	Aspen, *Colo.*	
Traughber, Charles ..	Centralia	Boone
Treuting, Frank Lewis	Bridgeport, *Conn.* ..	
Trowbridge, Welles Edward	Springfield, *Ill.* ..	

SCHOOL OF MINES AND METALLURGY.—Continued.

Name.	Postoffice.	County.
Twyman, George Thomas, Jr.	Independence	Jackson
Vogt, George C.	Davenport, *Iowa*	
Vogt, John Gerhard, Jr.	Trenton, *Ill.*	
Wiseman, Edward Wallace	Washington, *D. C.*	
Special Students.		
Elton, Thomas Bond	Webster Grove	St. Louis
Esprul, Rafael	Mexico City, *Mex.*	
Flood, Clarence Frank	Memphis, *Tenn.*	
Garza, Andrea	Saltillo, *Mex.*	
Garza, Antonio	Saltillo, *Mex.*	
Guppy, Percy Lechmere	Trinidad. *W. I.*	
Hauser, Carl	Mt. Vernon, *Iowa*	
Nichols, Charles Alexander	Pocahontas, *Ind. Ter.*	
Palomares, Radolfo des	Mexico City, *Mex.*	
Pierce, Roy Lawrence	Rolla	Phelps
Phillips, Logan Joseph	Brooklyn, *N. Y.*	
Renfrow, Thomas O.	Rolla	Phelps
Richards, Louis Marquette	Colorado Springs, *Colo.*	
Shaffer, Thomas Patton	Rolla	Phelps
Valencia, Carlos, Jr.	Outlan Jalisco, *Mexico*	

Summer Session.

Name.	Postoffice.	County.
Adams, George Leonard	Bullard, *Texas*	
Alexander, Carter	Paris	Monroe
Alford, Barton Leland	Vandalia	Audrain
Alford, Clarence Elmer	Vandalia	Audrain
Anderson, Harry Winfred	Goodwater	Iron
Anderson, Oscar Elwood	Columbia	Boone
Andrews, John Hobson	Linneus	Linn
Ankeney, John Sites, Jr.	Columbia	Boone
Armstrong, Rufus Frank	Urich	Henry
Arnold, Charles	Ashland	Boone
Arthur, Walter	Reeds	Jasper
Asbury, Mary Ellen	Columbia	Boone
Bailey, Ralph Emerson	Benton, *Ill.*	
Baker, Myrtle Maude	Tuscumbia	Miller
Baldwin, Carrie Elisa	Mexico	Audrain
Barbee, Frederick Hurdman	Webb City	Jasper
Barkley, Bennetta Maude	Mexico	Audrain
Barkley, Margaret Wilson	Albany	Gentry
Barkley, Grace	Henry	Ray
Barnett, Mrs. Mary Lynde	Columbia	Boone

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Barnett, Carrie	Columbia	Boone
Barnett, Mary Jessie	Columbia	Boone
Barnett, Nellie Mary	Louisiana	Pike
Bashore, Ethelbert Jay	Palmyra	Marion
Baugher, Albert Howard	Bucklin	Linn
Baum, Kathryn Eleanor	Clinton	Henry
Bayles, Mary Elizabeth	Rome, *Iowa*	
Beamer, Bess	Lamar	Barton
Beamer, Maude	Lamar	Barton
Beatty, Edward	Knobnoster	Johnson
Behrens, Anna M. Ellis	Billingsville	Cooper
Bell, Elizabeth Lucile	Monroe City	Monroe
Bernard, Luther Lee	Pierce City	Lawrence
Berry, Lizzie	Columbia	Boone
Berwick, George Wharton	Liberty	Clay
Betz, Annette	Kansas City	Jackson
Bischof, Clara Caroline	Rockport	Atchison
Bishop, Erma Rosaline	Pennsboro	Dade
Blair, Anna Lou	Springfield	Greene
Blevins, Minnie Evalena	Bolivar	Polk
Borberg, Adolf Frederick	Gray Summit	Franklin
Boucher, Andrew Sherman	Murphysboro, *Ill.*	
Boyd, Allie	Montrose	Henry
Boyes, Marion Allison	Auxvasse	Callaway
Brackney, Alberta	Warrensburg	Johnson
Branham, Robert Todd	Columbia	Boone
Brene, Bessie Maude	Rolla	Phelps
Bridges, Helen Frances	Kansas City	Jackson
Briggs, Fred Edwin	Joplin	Jasper
Brightman, Sam Charles	Lancaster	Schuyler
Brown, Buford Otis	Denton, *Texas*	
Brownlee, Oscar Campbell	Sibley, *Kans.*	
Brunner, Beulah May	Fairmont, *Okla.*	
Burk, Ellen Idella	Edina	Knox
Burke, Charles Albert	Butler	Bates
Burruss, John Lewis	Columbia	Boone
Bush, Ernest Forrest	Fulton	Callaway
Calfee, John Edward	Arcola	Dade
Campbell, Gloria Grace	De Soto	Jefferson
Campbell, John Claudius	Montrose	Henry
Campbell, Mary	St. Joseph	Buchanan
Campbell, Laura Belle	Columbia	Boone
Cannon, Helen	Kansas City	Jackson
Carmack, James Abner	Cora	Sullivan
Carney, Anna Alberta	Chillicothe	Livingston
Carpenter, Roy William	Maysville	DeKalb
Carr, James	Louisiana	Pike

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Carr, Charles Frederick	Rucker	Boone
Carter, John Langdon	Madison	Monroe
Carter. Jesse Lee	Columbia	Boone
Castle, Wilbur Francis	Holden	Johnson
Cho, Toda	Tochigi, *Japan*	
Cies, Maude	Fairfax	Atchison
Clagett, Edith J.	Dallas, *Texas*	
Clarahan, Mamie	Harper, *Iowa*	
Clark, Natalie Buckingham	Albany	Gentry
Clausen, Erwin Werner	Columbia	Boone
Clement, Bertha Josephine	St. Louis City	
Cochel, Mary Alice	Columbia	Boone
Cochran, Ethan Allen	Boonville	Cooper
Cockefair, Edgar Augustus	Unionville	Putnam
Cockefair, Wm. Raymond	Unionville	Putnam
Collins, Lulu Mary	Louisiana	Pike
Comer, Arthur Oliver	Nevada	Vernon
Comer, Edward Smith	Mound City	Holt
Cook, Wm. Hutchinson	Columbia	Boone
Cook, Stella	Centralia	Boone
Cooper, Pinkney Guinn	Columbia	Boone
Coppers, Add. Elmer	Hurdland	Knox
Cosby, Byron	Mound City	Holt
Crockett, Carrie Leotha	Princeton	Mercer
Cross, Nell Missouri	Appleton City	St. Clair
Currin, Lulu	Dawn	Livingston
Curry, Alva Rhoten	Centreview	Johnson
Curtis, Jennie Mae	South Bend, *Ind.*	
Custis, Minnie Dell	Carthage	Jasper
Dalton, Ruth	Malden	Dunklin
Davidson, George Francis	Fairfield, *Ill.*	
Dawson, Charles Edward	Knobnoster	Johnson
Dimmitt, Bertha	Shelbyville	Shelby
Donaldson, Bertha Lilias	Independence	Jackson
Dooley, Marion Sylvester	Houston	Texas
Downing, Claude Casey	Curryville	Pike
Drake, Charles Baile	Warrensburg	Johnson
Dunbar, Nola Belle	Bowling Green	Pike
Duncan, Katherine	Mexico	Audrain
Duncan, Mabel Helen	Columbia	Boone
East, Wm. Hutson	Brookfield	Linn
Eastman, Fred Ward	Kansas City	Jackson
Eckelberry, John Henry	Hamilton	Caldwell
Edelen, Lena Louise	Rutledge	Scotland
Edmonds, Nora Arilla	Carrollton	Carroll
Eitzen, Hertha Amelia	Columbia	Boone

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Elliff, Mrs. Jean Cumming	Columbia	Boone
Elliott, Harriet Emma	St. Joseph	Buchanan
Elliott, Thomas Edward	Nevada	Vernon
Elliott, Stephen Edwin	St. Joseph	Buchanan
Elliott, Loudee Nelson	California	Moniteau
Elsea, Earle Newton	Marshall	Saline
Embree, Jennie	Albany	Gentry
Ettmueller, Emma	Jefferson City	Cole
Eves, Bretha	Monarch, *Ark.*	
Faller, Alice Blanc	Brunswick	Chariton
Farley, Albert Chapman	Excelsior Springs	Clay
Fenn, Mary Nelle	Joplin	Jasper
Fine, Samuel Norris	Columbia	Boone
Fisher, Mary Wilson	Marshall	Saline
Fitch, Mary	Columbia	Boone
Fleming, Jennie Viola	Columbia	Boone
Flynt, Wm. Richard	Hallsville	Boone
Foglesong, Clara Magdaline	Columbia	Boone
Foglesong, Anna Catherine	Columbia	Boone
Ford, Mrs. Gertrude Evelyn	Louisiana	Pike
Fowler, Cora	El Dorado Springs	Cedar
Frakes, Susie Henderson	Columbia	Boone
Fray, Elizabeth Lelia	Bowling Green	Pike
Freeman, Floyd Conger	Chafee, *N. Y.*	
Fugitt, Olive Katherine	Carthage	Jasper
Gardner, Clara	Joplin	Jasper
Garnett, Bessy May	Columbia	Boone
Gentry, Lukie	Montgomery City	Montgomery
Gibson, Wilber James	Grant City	Worth
Gibson, Lizzetta	Grant City	Worth
Gibson, Estelle	Elsberry	Lincoln
Gill, Nora Jessie	Braymer	Caldwell
Gillaspy, Lura Elizabeth	Columbia	Boone
Gleason, Frances Ethel	Lebanon	Laclede
Graf, Leander Guy	Hermann	Gasconade
Grant, Mae	Zalma	Bollinger
Griffin, Mrs. Estelle Edwards	Marshall	Saline
Gruner, Caroline Frances	St. Louis City	
Gruner, Meta	St. Louis City	
Guthrie, Fanny Virginia	Columbia	Boone
Guthrie, Lulu	Columbia	Boone
Gwinn, Allen Clay	Mound City	Holt
Hacker, Glenda	New Madrid	New Madrid
Haden, Sara Ann	Columbia	Boone
Hall, John, Jr.	St. Louis City	
Hanna, Howard Samuel	Trenton	Grundy
Harlan, Bertha Marion	Kansas City	Jackson

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Harman, Robt. V.	Liberty	Clay
Harper, Eula Ezelle	El Paso, *Texas*	
Harris, George Frederick	Jameson	Daviess
Harris, Stella Case	West Plains	Howell
Harrison, Albert Grant	Collinsville, *Texas*	
Harrison, John Scott	Bethany	Harrison
Harrison, Jane Annetta	La Plata	Macon
Harvey, Ransom, Jr.	La Grange	Lewis
Harvey, Hubert Marcellus	Marshall	Saline
Hayes, Jessie	Sedalia	Pettis
Haynes, Eli Stuart	Trenton	Grundy
Hays, William Henry	Columbia	Boone
Hays, M. Ecil	Columbia	Boone
Hedges, Peter Thompson	Purdin	Linn
Hedges, Mrs. Peter Thompson	Purdin	Linn
Heidt, Thos. Johannes	Everly, *Iowa*	
Hendricks, Mamie	Bolivar	Polk
Hengy, Eva	Holden	Johnson
Henke, Arthur Raymond	St. Louis City	
Henley, Kathryn Hobbs	Independence	Jackson
Hildebrand, Mary Blanche	Columbia	Boone
Hill, Clyde Milton	West Plains	Howell
Hirdler, Eva Endurance	St. Louis City	
Hitch, Arthur Martin	Cuba	Crawford
Hodge, John L.	Swinton	Stoddard
Hopkins, Louise	Nevada	Vernon
Horn, Isaac Martin	Wyaconda	Clark
Horn, Ernest	Princeton	Mercer
Horner, Glen Roy	Deepwater	Henry
Horton, Henry Pomeroy	Columbia	Boone
Howard, Ida Elizabeth	Columbia	Boone
Hudson, Mrs. Zelda	Calhoun	Henry
Hudson, Charles Benoni	Calhoun	Henry
Huffman, Edwin Earle	Savannah	Andrew
Hugley, Charles Belt	Monroe City	Monroe
Hurt, Arthur Stratton	St. Clair	Franklin
Jadwin, Mary Elizabeth	Winona	Shannon
Jarman, Edgar Ambrose	Unionville	Putnam
Jeffries, Alonzo	Hallsville	Boone
Jesse, Richard Henry, Jr.	Columbia	Boone
Jesse, Caroline Elizabeth	Columbia	Boone
Jesse, Mary Daniel	Litwalton, *Va.*	
Johnson, George Ray	Princeton	Mercer
Johnson, Wm. Cassius	Forbes	Holt
Jones, Mrs. Belinda Nowlin	Columbia	Boone
Jordan, Sara Marie	Denver, *Colo.*	
Jourdan, Josephine	Chillicothe	Livingston

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Kauffmann, Marie	St. Louis City	
Keats, Juanita	Maysville	DeKalb
Kemp, Leah	El Dorado Springs	Cedar
King, George Franklin	Sweet Springs	Saline
Koch, Clara May Barbara	La Grange	Lewis
Krumm, Henry Alexander	Pilot Grove	Cooper
Kurtz, John Albert	Lockwood	Dade
Laidlaw, Wayne Noblet	Lawson	Ray
Lake, Edith Ova	Bayfield	DeKalb
Lamb, Helen	Brighton, *Col.*	
Lamb, Mary Adaline	Brighton, *Col.*	
Langenberg, Emma	St. Louis City	
Lanham, Wm. Bradford	Sapp	Boone
Langston, Bessie Belle	Louisiana	Pike
Lee, Edgar Desmond	Laddonia	Audrain
Lesueur, Corinna Estill	Antlers, *I. T.*	
Lewis, Mrs. M. D.	Columbia	Boone
Liepsner, Adriana May	Kansas City	Jackson
Lombar, Frank D.	Columbia	Boone
Love, Leslie	Louisiana	Pike
Love, Ruby Alys	Madison	Monroe
Lowen, Letha Margaret	Trenton	Grundy
Lowery, Lowell Leotus	Osnaburg, *Ohio*	
Magruder, Don Gilmer	Troy	Lincoln
Maguire, Emily	Maplewood	St. Louis
Mahan, Daniel Dulany	Hannibal	Marion
Major, Jno. Wm. McGarvey	California	Moniteau
Mallery, Eulalie Augusta	DeSoto	Jefferson
Malott, James Isaac	Preston	Hickory
Mann, Helen	Gallatin	Daviess
Manuel, Lulu	Clarence	Shelby
March, John Gooden	Sturgeon	Boone
Margrave, Myrtle	Medoc	Jasper
Margrave, Fannie	Medoc	Jasper
Marquis, Eva Malvena	Kansas City	Jackson
Marsh, Lulu Alice	Oregon	Holt
Matthews, Fannie Louisa	St. Louis City	
Melcher, Mary	Jericho Springs	Cedar
Melcher, Benjamin Franklin	Jericho Springs	Cedar
Melton, Emma	Clinton	Henry
Meyer, Mrs. Stella Sexton	Columbia	Boone
Michael, Roy A.	Braymer	Caldwell
Milan, Nellie	Macon	Macon
Miller, Guthrie McNab	Columbia	Boone
Miller, Charles Edward	Columbia	Boone
Millsap, James Arthur	Orrick	Ray
Mitchell, Willa Nora	Louisiana	Pike

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Mitchell, Pearcy Norwood	Dewitt	Carroll
Monroe, Walter Scott	Albany	Gentry
Montgomery, Maud Ellis	Columbia	Boone
Moore, Jerome Earle	Columbia	Boone
Morgan, Fred Buckner	Centralia	Boone
Moreell, Samuel, Jr.	St. Louis City	
Moreell, Anna	St. Louis City	
Morris, Richard E.	Lockwood	Dade
Morrison, Anne Hendry	Kansas City	Jackson
Murrill, Daisy May	David	Texas
McCammon, Flora Louise	Albany	Gentry
McCanse, Katherine Maver	Columbia	Boone
McCanse, Cecil C.	Columbia	Boone
McChesney, Frederic Leon	Odessa	Lafayette
McCord, Chas. Harvey	Atlanta, *Ga.*	
McCoy, Susan Gertrude	Carthage	Jasper
McDaniel, Ada May	Higginsville	Lafayette
McGhee, Alma Myrtle	Grandin	Carter
McGill, Barnet	Lebanon	Laclede
McGlothlin, Mary Edith	Kirkwood	St. Louis
McKee, Nellie	New Bloomfield, *Pa.*	
McKenzie, Jennie Pearl	Centralia	Boone
McMillen, Edwin Carroll	Columbia	Boone
McMillen, Albert Thomas	Columbia	Boone
McMinn, Walter James	Columbia	Boone
McPherson, John Edward	Martin City	Jackson
Nagle, Ethel Harris	Chillicothe	Livingston
Nally, Hortense	Cainsville	Harrison
Nardin, Frances Louise	Columbia	Boone
Neil, Emma	Kansas City	Jackson
Nixon, James Patheric, Jr.	Lebanon	Laclede
Northcutt, Ira Klosking	Columbia	Boone
Nowell, Edward Everett	Sweet Springs	Saline
Oldham, Chas. Woodson	Bosworth	Carroll
Oldham, Ada Clutter	Jefferson City	Cole
O'Rear, Miranda Allen	Boonville	Cooper
Parker, Edith	Columbia	Boone
Patrick, Ruth	Bowling Green	Pike
Patterson, Edwin Scott	Odessa	Lafayette
Pemberton, Walker S.	Armstrong	Howard
Pendleton, Essie Lee	Madison	Monroe
Perkins, Sue Scott	Joplin	Jasper
Pettingill, Lenora	Memphis	Scotland
Philippi, Harry Claire	Rockport	Atchison
Pickett, Ethel Blanch	Carthage	Jasper
Pickrell, Claude Dildine	St. Louis City	

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Pierce, Sallie Cheatwood	Columbia	Boone
Pierce, James William	Cape Girardeau	Cape Girardeau
Plunkett, Frank Willis	Columbia	Boone
Potts, Elizabeth	Salisbury	Chariton
Powell, Park	Hickman *Ky.*	
Powell, A. Tilden	Purdin	Linn
Powell, Mrs. A. Tilden	Purdin	Linn
Prier, Christopher William	Spruce	Bates
Proffer, Luther Everett	Doniphan	Ripley
Prosser, Wm. Gittings	St. Louis City	
Pryor, Herbert	Paynesville	Pike
Quinn, Roberta	Columbia	Boone
Read, John Wood	Columbia	Boone
Reavis, Geo. Washington	Maitland	Holt
Regan, Mary Lemon	Joplin	Jasper
Renfrow, Thos. Owen	Cuba	Crawford
Riddle, Charles Franklin	Kingston	Caldwell
Ridge, Frank Isaac	Kansas City	Jackson
Robinson, Elizabeth	Columbia	Boone
Robinson, Chas. Edward	Joplin	Jasper
Rocheford, Louise	Columbia	Boone
Rocheford, Rose Ella	Columbia	Boone
Rodgers, Clarence C.	Columbia	Boone
Rogers, James Burton	Santa Fe	Monroe
Rogers, Mary Julia	Cleveland, *Okla.*	
Ross, Lena Grace	Carthage	Jasper
Ronner, Ruth	Edina	Knox
Rumsey, Vernon	Maysville	DeKalb
Sage, Lula Elizabeth	Kansas City	Jackson
Saunders, Chas. Winston	Hickman, *Ky.*	
Schwabe, George Blaine	Columbia	Boone
Schwabe, Laura Jo	Columbia	Boone
Scott, John Grafton	Higdon	Madison
Searcy, Laura Anita	Columbia	Boone
Shackleford, Emma Neale	Sweet Springs	Saline
Sharpe, Charles Menford	Columbia	Boone
Shine, Mary E.	Kansas City	Jackson
Shockley, Minnie	Joplin	Jasper
Shoemaker, Rose Mae	Darlington	Gentry
Shrewsbury, Mary Katherine	Kansas City	Jackson
Shutts, Daniel	Galesburg, *Ill.*	
Sievers, John Frederick	Marion, *Kan.*	
Simmons, Emma Gertrude	Berryville, *Ark.*	
Sinclair, Elizabeth	Columbia	Boone
Skidmore, Mark	Springfield	Greene
Smith, Hattie Whitlow	Clarksburg	Moniteau

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
*Sneed, Arthur Allen	Columbia	Boone
Snellings, Minnie	Columbia	Boone
Spicer, Ines	Columbia	Boone
Stahlschmidt, Lessie Anna	O'Fallon	St. Charles
Steele, Stella Elisabeth	Columbia	Boone
Steele, Eva	Columbia	Boone
Stegner, Emma Marie	Boonville	Cooper
Steinmeyer, Kathryn Maria	Odessa	Lafayette
Stocks, Roy Baldwin	Columbia	Boone
Strickler, Ruby Margaret	Columbia	Boone
Stukey, Siddie	Scheli City	Vernon
Tavenner, Julia	Kansas City	Jackson
Thomas, William Washington	Springfield	Greene
Thompson, Nesta Mary	St. Louis City	
Thornburgh, Ethel	Mexico	Audrain
Thurston, Evangeline	Columbia	Boone
Timmons, Winnie	Columbia	Boone
Trabue, Fannie Ruth	Frankford	Pike
Treasure, Jas. Franklin	Kirksville	Adair
Tugel, Dolphus Eugene	Hermann	Gasconade
Underwood, George Arthur	Kansas City	Jackson
Utz, Mollie	St. Joseph	Buchanan
Wallace, Mrs. Effie James	Cowgill	Caldwell
Walsh, Stephen Silas	Bosworth	Carroll
Weese, William Joshua	Athelstan, *Iowa*	
Whelan, Maggie	Potosi	Washington
White, Florence	Drexel	Cass
White, Robert Ernest	Harrisonville	Cass
White, Goldie	Joplin	Jasper
Whitson, Jas. Clarence	Shawnee, *Okla.*	
Wilbanks, Clara	Liberty	Clay
Wildish, James Elmer	King City	Gentry
Williams, William Warren	Columbia	Boone
Williams, Olive	Columbia	Boone
Williams, Chas. Hamilton	Marble Hill	Bollinger
Williamson, Mrs. Minnie K.	Maitland	Holt
Williamson, Lucy	Mendon	Chariton
Williamson, Jane Emeline	Mendon	Chariton
Willis, Fidlie	Columbia	Boone
Willson, Maude Videlia	St. Joseph	Buchanan
**Wirth, Elsa	Munich, *Germany*	
Withers, Addie Arretta	Columbia	Boone
Witten, Wray	Versailles	Morgan
Wolcott, Elisabeth	Chillicothe	Livingston
Wolfrom, Anna	Duluth, *Minn.*	

*Died in Columbia, March 5, 1907.
**Died in Columbia, December 11, 1906.

SUMMER SESSION.—Continued.

Name.	Postoffice.	County.
Womack, Mary Bonneau	Kansas City	Jackson
Wood, James Madison	Boyer	Wright
Wood, Oval Anthony	Harrisburg	Boone
Wood, Eva	Mitchell, *Ind.*	
Wright, Edward Franklin	Odessa	Lafayette
Wright, James Kelly	Columbia	Boone
Wright, Mrs. James Kelly	Columbia	Boone
Wronker, Charlotte	Marshall	Saline
Wyman, Roy	Grant City	Worth
Yoffie, Leah Rachel	St. Louis City	
Zook, Earl Dott	Greenfield	Dade

UNIVERSITY EXTENSION CENTER, KANSAS CITY.

Arni, Ruby
Atkins, Louie.
Bailey, Lillian.
Baker, Bertha.
Behan, Julia.
Betz, Annette.
Bilderbeck, Ashleigh.
Bridges, Helen.
Brua, Elizabeth.
Buns, Alice M.
Busch, Adelaide.
Carmichael, Fannie.
Case, Eva Warner.
Chellis, Mollie.
Codrey, Belle.
Cully, Margaret.
Craig, Nellie H.
Davis, R. O.
Dreyer, Mary.
Edwards, Jennie.
Egan, Anna H.
Ferguson, Mrs. A. G.
Fisher, Catharine.
Fluhart, Mrs. S. T.
Fox, Ellen.
Gilliam, Lelia.
Goodrich, Etta.
Griffin, M. E.
Harrelson, Sally.
Helphurstein, Anna L.
Hooker, Minnie.
Jones, Alma.
Jones, Elizabeth.
Jones, Virginia.
Kube, Emma.
Lawrence, Mrs. Urma.
Lehan, Pearl.
Leitch, Mary L.
Lowe, Kizzie Y.
McKinney, Sally T.
McNutt, Frances.
Morrison, Annie.
Murphy, Elizabeth.
Nardin, Louise.
Nulliken, Anna.
Reynolds, Hariett.
Reed, Olive.
Roberts, C. Kate.
Russell, Elizabeth.
Russell, Rosamond.
Shire, Anne.
Shrewsbury, Katharine.
Sisson, Marey E.
Smoot, Lucy.
Spencer, Elizabeth.
Stiles, Katharine.
Taylor, Y. M.
Teasdale, Annie.
Teasdale, Marguerite.
Turk, Genevieve.
Young, Myrtle M.

UNIVERSITY EXTENSION CENTER, ST. JOSEPH.

Beaumont, Amanda L.
Bigham, Beulah.
Bigham, Mae.
Blomberg, Mary.
Dersch, Edna.
Eib, Ada.
Elder, Maggie.
Elliott, S. E.
Ferguson, Zoe.
Ferrill, Harriet.
Franklin, Daisy.
Higbie, Marjorie.
Huffman, Ida.
Johnson, W. E.
Larkin, Laura.
Leffler, Helen.
Lower, Beulah.
Lysaght, Beatrice.
Malone, R. N.
Peterman, May.
Polk, Lillie B.
Ransom, Mable.
Reardon, Mary.
Reeves, Erville.
Schultz, Nellie.
Snively, Alice.
Spencer, Allie.
Starrett, Lena.
Sutton, Ethel.
Weichert, Laura.
Wilson, Maud.
Wilson, Anna.

(In addition to those whose names appear above 139 persons were enrolled as Hearers.)

UNIVERSITY EXTENSION CENTER, WEBB CITY.

Bailey, Ethel.
Benton, Grace.
Booher, Ella.
Britten, Neva.
Carey, Jessie P.
Clark, Bertha.
Collier, Josephine.
Coyle, Ina.
Custes, Minnie D.
Davis, Viola.
Fugitt, Kathrine.
Glenn, Florence L.
Glenn, Mrs. W. C.
Green, C. A.
Harvey, Lura M.
Helm, Ella F.
Helm, Mattie.
Herrod, Mrs. Pearl.
Hobart, Pearl.
Holmes, Grace A.
Jaccard, Carrie.
Jaccard, Elizabeth.
Jacks, Laura B.
Johnson, Enid P.
Keeling, A. J.
Latimer, Maud.
McAboy, Emma.
McEntee, Mamie.
McLain, Alice.
Marrah, Augustine (Miss.)
Mericle, O. R.
Miles, Mrs. W. O.
Moran, Kate V.
Nichols, R. S.
Pile, Anna.
Robison, Emma G.
Sides, Aimee.
Stinnett, Mamie.
Thompson, Frank C.
Thralls, Zoe.
Weatherford, Ida M.
Whitescarver, Dicea.
Wildish, James E.
Winter, Kathrine.

UNIVERSITY EXTENSION CENTER, JOPLIN.

Arnold, Callie.
Baker, Rose.
Baker, S. A.
Barton, Frank.
Baum, Emma.
Beard, Edna.
Bell, Lola.
Board, Dollie.
Burney, Birdie.
Burns, Mrs. Thos. P.
Caldwell, Mattie.
Carter, Mrs. Anna.

EXTENSION CENTER, Joplin—Continued.

Coffman, Leona.
Corl, Pearl M.
Corlett, Eva.
Correll, Pearl.
Coulson, Grace.
Cox, Mrs. Helen.
Daugherty, Mrs. Claude B.
Daugherty, C. F.
Daugherty, Tresa.
Davis, Mary.
Delaney, Nellie.
Diggs, Nellie.
Elliff, A. C.
Finley, C. A.
Gaither, Edna.
Geier, Elsie.
Gilmer, Grace.
Gott, Novilla.
Gray, Olive.
Griscom, Irene.
Hall, L. J.
Hamilton, Miss M. M.
Hargis, Etta.
Helm, Leona.
Helm, Myrtle.
Hickman, Maybelle.
Jackson, Mary.
Knight, L. G.
Leach, Iva.
Lett, Belva.
Lett, Edna.
Linton, Ida M.
Lundy, Bessie.
Lutman, Effie.
Lydard, Vera.
McCarty, Catherine R.
McCarty, Mary Y.
McClintock, Kate.
McCullough, Miss Eddie.
Martin, Elva.
Montgomery, Dorothy.
Myers, Nell.
Nickell, W. A.
O'Rear, Fannie.
Peck, Daisy.
Perkins, Sue S.
Price, Emma L.
Regan, Agnes.
Regan, Mary.
Russum, Serena.
Sievers, Eula.
Smoot, Viola.
Spicer, Edyth (Mrs.).
Stewart, Edith K.
Thomas, Almeda.
Thudium, M. D.
Thudium, M. D. (Mrs.).
Timmons, Eunice.
Tyler, May.
Wade, Belle.
White, Goldie.
Wilkinson, Edith.
Work, Willa B. (Mrs.).

UNIVERSITY EXTENSION CENTER, ST. LOUIS.

(St. Louis School of Philanthropy.)

Anderson, Fannie (Mrs.).
Baldwin, R. N.
Baumhoff, F. W. (Mrs.).
Baumhoff, Geo. W. (Mrs.).
Bradford, Margaret.
Calvin, F. N.
Coleman, Blanche.
Day, John W. (Mrs.).
Eliot, Marion C.
Evans, Anne.
Farrelle, Elizabeth.
Greensfelder, Carrie (Mrs.).
Greensfelder, M. B.
Gott, M. B.
Gurney, C. L.
Hutchison, Ella.
Kauffman, Marie.
Keber, Cornelia.
Knefler, C. I. (Mrs.).
Letsig, Emma.
Lynch, Marie.
Messick, T. F.
Mitchell, Susie.
Molly, Margaret.
Overland, P. (Mrs.).
Perry, Mary E.
Prey, Nina.
Remmick, C. E.
Smith, J. P. (Mrs.).
Stahmann, Florence.
Taake, Alice.
Toomey, Mrs. P. J.
Tucker, M. E. (Mrs.).
Vaughan, A. W.

SUMMARIES.

I. Enrollment by Departments.

I. College of Arts and Science.

Graduate Students	67
Seniors	96
Juniors	121
Sophomores	212
Freshmen	305
Specials	66
Total	867

II. Teachers College.

Graduate Students	21
Seniors	61
Juniors	78
Sophomores	78
Freshmen	80
Specials	20
Total	338

III. College of Agriculture and Mechanic Arts.

Graduate Students	13
Seniors	7
Juniors	27
Sophomores	28
Freshmen	33
Specials	26
Short Course (Animal Husbandry)	52
Short Course (Plant Production)	14
Short Course (Dairy)	11
Total	211

IV. Law Department.

Seniors	54
Second Year	62
First Year	86
Specials	50
Totals	252

V. Department of Medicine:

Fourth Year	2
Third Year	16
Second Year	23
First Year	15
Specials	10
Total	66

VI. Department of Engineering:

Graduate Students	29
Seniors	59
Juniors	73
Sophomores	115
Freshmen	136
Specials	26
Total	438

VII. Department of Journalism:

VIII. Graduate Department:

Academic	67
Teachers College	21
Agriculture	13
Engineering	29
School of Mines	8
Total	138

IX. School of Mines and Metallurgy (*Rolla*):

Graduate Students	8
Seniors	33
Juniors	33
Sophomores	43
Freshmen	78
Specials	15
Total	210

X. Missouri Military School (*at Columbia*) 353

II. Students in Gymnasium.

Men	444	Women	205

III. Young Men and Young Women.

(a) *Columbia*:	Men.	Women.	(b) *Rolla*:	Men.	Women.
Regular Session	1352	468		210	0
Summer Session	181	222			
Totals	1533	690	*Columbia*	1450	632
Counted twice	83	58	*Rolla*	210	0
Net totals	1450	632	Totals	1660	632

IV. ENROLMENT BY DEPARTMENTS—REGULAR SESSION.

Department.	Graduate.	Senior.	Junior.	Sophomore.	Freshman.	Special.	Total.
Academic	67	96	121	212	305	66	867
Teachers College	21	61	78	78	80	20	338
Law		54	62		86	50	252
Medicine		2	16	23	15	10	66
†Agriculture	13	7	27	28	33	26	†211
Engineering	29	59	73	115	136	26	438
Total at Columbia	130	279	377	456	655	198	2172
School of Mines—Rolla	8	33	33	43	78	15	210
Total Class Registration	138	312	410	499	733	213	2382

Deduct for double registration, etc.	353
Net total enrolment, regular session	2029

(†) Total includes 77 registered in the "Short Winter Course" in Agriculture.

Registration at Columbia, Summer Session	403
" " " Regular Session	1820
" " Rolla " "	210
	2433
" Counted twice	141
Total net enrolment { at Columbia 2082 / at Rolla 210 }	2292

Adding to the above figures 246 students enrolled in University Extension Centers, Kansas City, St. Joseph, Webb City, Joplin, and St. Louis, we have a total of 2538 students who received University instruction.

V. COUNTIES REPRESENTED IN THE UNIVERSITY.

Counties.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Adair	1	7			8
Andrew	1	6			7
Atchison	3	6	1		8
Audrain	7	26	3		30
Barry		4			4
Barton	2	14	1	1	16
Bates	2	11			13
Benton		2			2
Bollinger	2	3	2		3
Boone	90	292	50	1	333
Buchanan	5	37	2		40
Butler		3			3
Caldwell	5	15	1		19
Callaway	2	10		1	13
Cape Girardeau	1	8	1	2	10
Carroll	4	19			23
Carter	1				1
Cass	2	18			20
Cedar	4	7			11
Chariton	4	25	1	1	29
Clark	1	7			8
Clay	4	16			20
Clinton		10		4	14
Cole	2	6			8
Cooper	5	15	1		19
Crawford	2	1			3
Dade	5	16	2		19
Daviess	2	14	1	1	16
DeKalb	4	7	1		10
Dent		3		3	6
Dunklin	1				1
Franklin	2	10		2	14
Gasconade	2	1			3
Gentry	7	15		1	23
Greene	3	13	1		15
Grundy	3	10	2		11
Harrison	2	18			20
Henry	8	17	1		24
Hickory	1				1
Holt	7	19			26
Howard	1	12	1		12
Howell	2	7			9
Iron	1	3	1		3
Jackson	19	120	6	14	147

COUNTIES REPRESENTED IN THE UNIVERSITY—Continued.

Counties.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Jasper	17	61	5	4	77
Jefferson	2	6		1	9
Johnson	7	24	4		27
Knox	3	6	1		8
Laclede	3	10	3	3	13
Lafayette	5	17	1		21
Lawrence	1	15			16
Lewis	2	8	1		9
Lincoln	2	14	1		15
Linn	7	15	6	1	17
Livingston	5	21			26
McDonald		2			2
Macon	2	22	1		23
Madison	1	1		1	3
Marion	2	21	1		22
Mercer	3	10	1		12
Miller	1	3			4
Moniteau	3	9			12
Monroe	7	12	1	1	19
Montgomery	1	12			13
Morgan	1	1			2
New Madrid	1	1			2
Newton		5		1	6
Nodaway		24		1	25
Osage		5			5
Ozark		1			1
Pemiscot		7			7
Perry				2	2
Pettis	1	37	1	2	39
Phelps		1		14	15
Pike	13	15	1		27
Platte		8			8
Polk	2	5			7
Pulaski		2			2
Putnam	3	7	2		8
Ralls	1	7			8
Randolph		20			20
Ray	3	14	1		16
Reynolds		3			3
Ripley	1				1
St. Charles	1	8			9
St. Clair	1	10			11
St. Francois	1	4	1	3	7
St. Louis	2	30	1	2	33

COUNTIES REPRESENTED IN THE UNIVERSITY—Continued.

Counties.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Saline	8	22	2		28
Schuyler	1	8			9
Scotland	2	4			6
Scott		1			1
Shannon	1	2			3
Shelby	2	17	1		18
Stoddard	1	12	1		12
Stone		1			1
Sullivan	1	5			6
Texas	2	2	1	1	4
Vernon	4	23	1		26
Warren		2			2
Washington	1	5		1	7
Worth	3	3	2		4
Wright	1	5	1		5
City of St. Louis	15	89	5	23	122

VI. STATES, TERRITORIES, DEPENDENCIES, AND FOREIGN COUNTIES REPRESENTED IN THE UNIVERSITY.

States.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Alabama		6			6
Arkansas	2	15	1	4	20
California		9		4	13
Colorado	3	11		10	24
Connecticut				1	1
Florida		2			2
Georgia	1	1	1		1
Idaho		1		1	2
Illinois	4	22	1	18	43
Indiana	2	4		1	7
Iowa	4	17	3	6	24
Kansas	2	28		10	40
Kentucky	2	11	2		11
Louisiana		1			1
Massachusetts		2		1	3
Michigan		3		1	4
Minnesota	1	2			3
Mississippi		4		1	5
Missouri	367	1540	126	92	1873
Montana		1			1
Nebraska		6		5	11
New Jersey		1		1	2
New York	1	18		10	29
North Dakota		1		1	2
Ohio	1	14	1	4	18
Oklahoma	4	19	2	5	26
Oregon		2			2
Pennsylvania	1	7		1	9
Tennessee		4		2	6
Texas	5	19	2	1	23
Utah		1		3	4
Virginia	1	1			2
Washington		2			2
West Virginia		3			3
Wisconsin		3			3
Wyoming		1		2	3
District of Columbia		1		2	3
Alaska				1	1
Argentine Republic		1			1
Arizona				3	3

STATES, TERRITORIES, DEPENDENCIES, AND FOREIGN COUNTRIES REPRESENTED IN THE UNIVERSITY—Continued.

States.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Bavaria	1				1
Chile				1	1
China				1	1
Germany	1	1	1		1
India		1		1	2
Japan	1	1	1	1	2
Mexico		1		6	7
New Mexico		6		1	7
New Zealand				1	1
Nova Scotia		1			1
Philippine Islands		2		1	3
Russia				2	2
Sweden				1	1
Syria		1			1
Trinidad, W. I.				1	1

CERTIFICATES, DEGREES, AND HONORS, COMMENCEMENT, 1906.

(A). COLUMBIA.

CERTIFICATES.

Department of Military Science and Tactics.

Goodman Bell.
Luther Lee Bernard.
Ray Thomas Bond.
Fred Edmund Briggs.
Elbert Calvin Brown.
Marland Emery Brown.
Wiley Franklin Corl.
Leslie Nathaniel Crichton.
William Clarence Davidson.
Ray Vaughn Denslow.
Duane Howard Doane.
Ira Scott Gardner.
Frank Peyton Gaunt.
Jefferson Byron Kennedy.
Henry Alexander Krumm.
William Bradford Lanham.
Harold Todd Livingston.
Walter Cyrus Logan.
Ewing Lafayette Lusk.
Robert G. Lyda.
Merle Jasper Mallery.
Clarence Eugene McAdam.
Raymond Alexander McCoy.
Walter Knott McKay.
Andrew Jackson McKensie.
Levi Moody, Jr.
Elmer Garrett Parsons.
Roderick Edwin Riddle.
Eugene Webster Robinson.
Earl Wilson Rusk.
Michael Herbert Schnapp.
Harry Fraser Sedwick.
Melvern Wade Sigler.
Benjamin William Tillman.
Floyd Smith Tuggle.
Louis Harry Winkler.

Teachers College.

Life Certificate to Teach in High Schools (with specialties as indicated).

Madeline Branham (Drawing).
Helen Frances Bridges (Mathematics, Physics).
Gloria Washington Carr (Biology, Latin, English).
Ella Sara Foglesong (Latin, Greek, History).
Fanny Virginia Guthrie (French, History).
Jane Annetta Harrison (German, Latin, French, English).
George Ray Johnson (English).
Gussye Kahn (German, French).
Emma McCallon (English, History).
Anna Katharine Lash (Latin, English, Greek).
Adriana May Liepsner (Mathematics, Physics).
Frances Winifred Nacy (French, English).
Cora Matilda Newkirk (English).
Miranda Allen O'Rear (Latin, History).
Rose Shoemaker (History, English).
Mary Madeline Smith (Latin, English).
Saidee May Stean (English, History).
Earle Graves Tyler (English, History).
Hazel White (Latin, German).
Maude Williams (English, German, French).
Beatrix Winn (History, German, English).

Life Certificate to Teach in Elementary Schools.

Ellen Idella Burke. Rose Shoemaker.

Certificate to Teach for Two Years in High Schools (with specialties as indicated).

Grace Lillian Allen (English, German).
Etta Mildred Allder (French, English, Biology).
Edith Grace (Biology).
Bessie May Evans (German, Latin, History).
Eleanor Madge Gordon (Latin, History).
Maud McCormick (English).
Nettie Violet Pickett (Mathematics).
Candace Powers (History, English, Drawing).
Jean Elsie Taylor (English, Latin).

Certificate to Teach for Two Years in Elementary Schools.

Norma Hortense Crickett. Daisy May Murrill.
Susan Elizabeth Killam. Nellie Sophia Peterson.
Susan Gertrude McCoy. Ethel Nesbit.

Department of Medicine.

In Training School for Nurses Diploma Awarded.

Maude McCormick Keller.
Marina Johanna Bedell.

In the Parker Memorial Hospital a Certificate for Service as Interne, Awarded.

August William Kampschmidt.

DEGREES.

Degree of Doctor of Medicine (M. D.).

William Hammack Goodson. John Max Riggs.
August William Kampschmidt. Grace Lillian Scholz.
Richard Stephen MacCabe. Ruth Seevers.
Frank Pitman Osborn. Craig Worth.

Department of Law.

Degree of Bachelor of Laws (LL. B.).

William Alwicious Franken, *cum laude.*
Fred Kelsey, *cum laude,*
A. B., University of Missouri.
Claude Otis Pearcy, *cum laude.*
Robert Turner Abernathy,
A. B., University of Missouri.
John Malcolm Anderson.
Henry Vincent Beeman.
Lafayette Lee Bowman.
William Henry Burgess.
Milton Clarence Burk,
A. B., University of Missouri.

James Henry Chinn.
James Robert Claiborne, Jr.
Boyle Gordon Clark.
Fred Hiner Dale.
George Nelse Dance.
Waldo Edwards.
Everett Friese,
A. B., University of Missouri.
Jere Inman Galbraith.
Elias Greenman.
Jacob Joseph Gunther.
Joseph Reeves Hedenburg.
Quintus Arthur Kaune.
Ben Drew Kimpel.
Fred Kincannon.
James Feurt Meade.
Roy Bondurant Meriwether.
Maurice Patrick Murphy.
Clark Nichols.
James Allen Parks.
Edward Nelson Sears,
A. B., University of Missouri.
Lewis Bliss Shelby.
Thomas Tilden Simmons.
Oliver Lee Steele,
A. B., University of Missouri.
Luther Wesley Tennyson,
A. B., University of Missouri.
Enoch Lee Thomas.
William Ernest Wells.
John Benjamin Wilson.
Randall B. Young.

School of Agriculture.

1. *Degree of Bachelor of Science in Agriculture (B. S. in Agr.).*

Mary Alice Cochel.
Charles Arthur Cole.
Fannie Taylor Hartman.
John Samuel McDaniel.
Chester Gibbs Starr.
Daniel Benjamin Thieman.
Harry Selwyn Wayman.
Howard Welch.

2. *In the Graduate Department—Degree of Master of Science in Agriculture (M. S. in Agr.).*

Conner Melbourne Long,
(B. S. in Agr. Univ. of Mo., '05.)
William Henry Chandler,
(B. S. in Agr. Univ. of Mo., '05.)
Ralph Erskine Hyslop,
(B. S. in Agr. Univ. of Mo., '05.)

School of Engineering.

1. *Degree of Bachelor of Science in Civil Engineering (B. S.).*

Harry Bashore.
Don Hewitt Blanks.
Ernest Dinkle.
Edwin Leroy Driggs.
David Richardson Durant.
Roy West Emmert.
Robert Edward Gilmor.
Vernon Adelbert Hart.
Benjamin Franklin Heidel.
Carl Porter Hoff.
Clarence Sylvester Jarvis.
Frank Leroy Lockwood.
Earl Querbach.
Edward Robert Romberg.
William Kerlin Seitz.
James Louis Vandiver.
Ross Clark Wells.
Ivan Forrest White.

2. *Degree of Bachelor of Science in Electrical Engineering (B. S.).*

Harry Edward Bagby.
Robert Lee Baldwin.
James Harry Barns, Jr.
Hayden Burnley Clements.
Lindley Gilmore Coleman.
Leslie Nathaniel Crichton.
William Harris Floyd III.
Velt Aull Hain.
Arthur James Jobson.
James Franklin Kidd.
Raymond Alvin Kiser.
Franklin Marion Nash.
John Eaton Richardson.
Earl Alphonso Rosebush.
Homer Kephart Smith.
Albert William Spaht.
Ira Guy Walborn.

3. *Degree of Bachelor of Science in Mechanical Engineering* (*B. S.*).

Charles Franklin Alt.
Daniel Lee Brundige.
Charles Horace Fessenden.
Marshall H. Monlux.
Louis John Schrenk.
Otto Barnett Willi.

4. *In Graduate Department—Degree of Civil Engineer* (*C. E.*).

Frank Leslie Wilcox.

5. *In Graduate Department—Degree of Mechanical Engineer* (*M. E.*).

Edwin Allan Fessenden,
(B. S. in M. E. Univ. of Mo., '04.)
James Roy Wharton,
(B. S. in M. E. Univ. of Mo., '05.)

Teachers College.

1. *Degree of Bachelor of Science in Education.*

Madeline Branham.
Helen Frances Bridges.
Gloria Washington Carr.
Ella Sara Foglesong.
Harry Franklin Fore.
Fannie Virginia Guthrie.
Jane Annetta Harrison.
George Ray Johnson.
Gussye Kahn.
Emma McCallon.
Anna Katharine Lash.
Adriana May Liepsner.
Frances Winifred Nacy.
Cora Matilda Newkirk.
Miranda Allen O'Rear.
Rose Shoemaker.
Mary Madeline Smith.
Saidee May Stean.
Earle Graves Tyler.
Hazel White.
Maude William.
Beatrix Winn.

2. *Degree of Master of Arts* (*Teachers College*).

John Crockett Edwards,
(B. L., Univ. of Mo., '99.)
Hollis Hendrix Thurston,
(B. L., Univ. of Mo., '00.)

Academic Department.

1. *Degree of Bachelor of Arts* (*A. B.*).

Wilkie Myrtle Adams.
Carter Alexander.
Etta Mildred Allder.
Grace Lillian Allen.
Benjamin McAlester Anderson.
David Wylie Anderson.
Louise Arnold.
George Washington Carr.
Winfred Bryan Cole.
James Herman Craig.
Lyle Miner Daley.
Samuel Arthur Dew.
James Daniel Ellis.
Edwin Rush Fleming.
Ella Sara Foglesong.
Charles Wisdom Fristoe.
John Virgil Goodson.
Eleanor Madge Gordon.
John Gasser Grossenbacher.
Jane Annetta Harrison.
Russell Edward Holloway.
Uriel Wright Hughes.
Josephus Henry Ikenberry.
Louis Etienne Imbert.
Robert William Jones.
Gussye Kahn.
Anna Katharine Lash.
Gardiner Joseph Lucitt.
Leo Loeb.
Benjamin Franklin Lutman.
James Robert McChesney, (*in absentia*).
Maude McCormick.
Edwin Burch Miller.
Frances Winifred Nacy.
Cora Matilda Newkirk.
John Henry Newman.
Merrill Edward Otis,
Henry Gordon Peck.
John Edmund Perry.
Candace Powers.
Morton McNutt Prentis.

Lakenan Moss Price.
Maud Cannell Quayle.
Lillian Mary Scurlock.
Elba Seymour.
Clara Lillian Shelton.
Stanley Sisson.
Mary Madeline Smith.
Saidee May Stean.
Fred Lee Trewitt.
Floyd Smith Tuggle.
Elsie Winship Wadell.
Dixie Rush Westlake.
Hazel White.
Harold Spencer Williams.
Maude Williams.
Beatrix Winn.

2. *Degree of Master of Arts (A. M.).*

Edmond Bonnot,
(A. B., Univ. of Mo., '03.)
Redmond Selecman Cole,
(A. B., Univ. of Mo., '05.)
Hertha Amelia Eitzen,
(A. B., Univ. of Mo., '05.)
Mary Fitch.
(B. S., Univ. of Mo., '05.)
Wallie Abraham Hurwitz,
(A. B., B. S. Univ. of Mo., '06.)
Charles William Leaphart,
(A. B., Univ. of Mo., '05.)
Charles Harvey McCord,
(A. B., Mo. Valley College, '02.)
Willie Isadore Smoot,
(A. B., Univ. of Mo., '05.)
George Arthur Underwood,
(A. B., Univ. of Mo., '05.)
James Gordon Ward,
(A. B., Univ. of Mo., '05.)
Lois Welty,
(A. B. Univ. of Mo., '05.)

Installed as Tutor to the University.

Woodson Moss.

Honorary Degree of Doctor of Laws (LL. D.).

John Green.
Joseph Wingate Folk.
Frederick Newton Judson.

PRIZES, MEDALS, SCHOLARSHIPS, AND HONORS.

The Dachsel Prize (Engineering). Not Awarded.

Department of Law. The Karnes Prize—Legal Ethics. Not Awarded. The Edward M. Thompson Prize (American and English Encyclopedia of Law)—On Disturbing the Peace. First, Fred Kelsey; second, Claude Otis Pearcy.

The American Law Book Company Prize. Lewis Bliss Shelby.

The William J. Bryan Medal (Political Science). Harry Edmund Kilmer (A. B., University of Missouri, 1905).

The William S. Woods Prize (Missouri History). Glen Roy Horner.

The Laws Medal (Astronomy). (Not Awarded.)

The McAnally Medal (English). (Not Awarded.)

The Nelson C. Field Prize in Poetry—English. (Not Awarded.)

The Military Cup. Company D, Captain Redmond Selecman Cole.

The Military Medal. Otto Benjamin Denny.

The Marksmanship Medal. Jay Gould Clift.

The Stephens Medal (Oratory). Oliver Lee Steele.

The James S. Rollins Scholarship, Department of Medicine. Charles Wade Simison.

The James S. Rollins Scholarship, Department of Law. Fred Wilton Temple.

The James S. Rollins Scholarship, School of Agriculture. Tom Elwyn Woodward.

The James S. Rollins Scholarship, School of Engineering. Joseph Hugh Brooking.

The James S. Rollins Scholarships (Two), Academic Department. Walter Edward Dandy, Helen Mar Krabiel.

The Honor of Valedictorian in the Medical Department, awarded John Max Riggs.

The Honor of Valedictorian in the Law Department, awarded William Alwicious Franken.

The Honor of Valedictorian in the College of Agriculture and Mechanic Arts (School of Agriculture), awarded Harry Selwyn Wayman.

The Honor of Valedictorian in the College of Agriculture and Mechanic Arts (School of Engineering), awarded William Kerlin Seitz.

The Honor of Valedictorian in the Teachers College, awarded Wallie Abraham Hurwitz.

The Honor of Valedictorian in the Academic Department, awarded Maude Williams.

The following Certificates and Degrees were conferred during the interim between Commencement—June, 1905, and June, 1906:

(Note: *a*, at the Opening Convocation of the First Semester; *b*, at the Opening Convocation of the Second Semester.)

Life Certificate, Teachers College, to Teach in High Schools (with Specialties as Indicated).

Carter Alexander (English, Latin, Chemistry. *b*.
Hertha Amelia Eitzen (Mathematics, Latin, Greek). *b*.
Harry Franklin Fore (English, German, Latin). *a*.
Mary Fitch (Botany, Zoology). *b*.
George Lorimer Hawkins (Latin, History). *b*.
Harley Earl Howe (Mathematics, Physics, Chemistry). *b*.
Wallie Abraham Hurwitz (Mathematics). *b*.
John William McGarvey Major (Mathematics, Latin). *a*.
Vivian Stump (English). *a*.
George Arthur Underwood (Latin, Greek). *b*.
Jesse Raymond Williams, *in absentia* (Latin, Greek). *b*.

Life Certificate, Teachers College, to Teach in Elementary Schools.

Lelia Gilliam. *a*.

Certificate, Teachers College, to Teach Two Years in High Schools.

Carl Spencer Dakan (English, History). *a*.
Walter Scott Monroe (Mathematics, Physics). *a*.
Ethel Clare Moore (Latin, French, English). *b*.
Charles Winston Saunders (English). *a*.
Mabel Annie Squire (Latin, English). *a*.

Certificate, Teachers College, to Teach Two Years in Elementary Schools.

Bertha Lilias Donaldson. c.
Edna Linella Donaldson. c.
Emma McCallon. c.

Degree of Bachelor of Science in Education, Teachers College.

Carter Alexander. c.
Hertha Amelia Eitzen. b.
Mary Fitch. c.
Harley Earl Howe. b.
Wallie Abraham Hurwitz. b.
Mrs. Gertrude Frissellie Liggett. b.
George Arthur Underwood. b.

Degree of Bachelor of Science in Agriculture, School of Agriculture and Mechanic Arts.

Lucius Franklin Childers. b.

In the Department of Law, the Degree of Bachelor of Laws.

Reuben Joel Gentry. b.
John J. Spriggs. b.

In the Academic Department, the Degree of Bachelor of Arts.

George Lorimer Hawkins. b.
Wallie Abraham Hurwitz. b.
Leonidas Rutledge Whipple. b.
Bettie Williams. b.
Jesse Raymond Williams—*in absentia*. b.

In the Graduate Department, the Degree of Civil Engineer.

Milo Hamilton Brinkley—*in absentia*. b.

The following Certificates and Degrees have been conferred since the last Commencement—June, 1906:

(Note: The following were conferred at close of Summer Session. August 10, 1906.)

Certificates to Teach for Two Years in Elementary Schools Awarded the following Students.

Lucile Bell.
Lena Marie Fogiesong.
Mary D. Jesse.
Minnie Snellings.

Certificates to Teach for Two Years in High Schools (with specialties as indicated) Awarded the following Students:

Clarence Elmer Alford (History, English).
Leander Guy Graf (German).
Robert V. Harman (English, Latin, History).
Herbert Pryor (History).

Life Certificates to Teach in Elementary Schools Awarded the following Students:

Mary Alice Cochel.
Lucy Cornelia Crumbaugh.
Daisy May Murrell.

Life Certificates to Teach in High Schools (with specialties as indicated) Awarded the following Students:

Helen Frances Bridges (Chemistry added).
Mary Alice Cochel (Agriculture, Botany).
Lucy Cornelia Crumbaugh (English).
Walker S. Pemberton (Mathematics).
Frank Willis Plunkett (English).

In the College of Agriculture and Mechanic Arts (School of Engineering) Degree of Bachelor of Science in Electrical Engineering, conferred by the University upon

George Frederick Harris.

In the Teachers College, the Degree of Bachelor of Science in Education, conferred by the University upon the following Students:

Mary Alice Cochel.
Byron Cosby.
Lucy Cornelia Crumbaugh.
Clara May Barbara Koch.
Maud Ellis Montgomery.
Walker S. Pemberton.
Frank Willis Plunkett.
Mark Skidmore
Robert Ernest White.
Jesse Raymond Williams.
Charlotte Wronker.

In the Academic Department, the Degree of Bachelor of Arts, conferred by the University upon the following Students:

John Sites Ankeny, Jr.
Edward Smith Comer.
Frank Peyton Gaunt.
Levi Moody, Jr.
Adriana May Liepsner.

In the Graduate Department, the Degree of Master of Arts (Teachers College), conferred by the University upon

John William McGarvey Major.

(Note: The following were conferred at Mid-Year Convocation, January 29, 1907.)

Bachelor of Arts.

Harvey Winfred Anderson.
Grace Barkley.
Luther Lee Bernard.
Roma Brashear.
Clark Wesley Comstock.
Dimmitt Heard Hoffman.
Elmer Alexander McKay.
Charles Edward Robinson.
William Edward Suddath.

Bachelor of Science in Education.

Jennie Adeline Duvall.
Eleanor Madge Gordon, A. B.

Bachelor of Science in Agriculture.

Tom Elwyn Woodward.

Master of Arts.

TEACHERS COLLEGE.

Meta Theresa Eitzen, B. S.
Joseph Dolliver Elliff, A. B.

Civil Engineer.

Frazier Crosswell Hilder.

(*B*). *ROLLA.*

I. DEGREES.

1. *ENGINEER OF MINES.*

Raphael Currier Alexander.

2. *METALLURGICAL ENGINEER.*

Albert Dyke Wilson.

3. *BACHELOR OF SCIENCE (Mine Engineering).*

John Owen Ambler.
John McMillen Brooks.
William Alexander Gardiner.
Walter Scott Grether.
Edward Arthur Guntly.
Henry H. Hartzell.
Frank Bowman Powell.
John Dozier Shanks.
Jesse Herman Steinmesch.
Robert Hardy Bedford.
Damon Duffield Dunklin.
Cecil Theodore Green.
William Thomas Griffith.
Horace Alonzo Hand.
Preston King Horner.
Ray Fleming Rucker.
John Vivian Stevens.
William Charles Wyman.

4. *BACHELOR OF SCIENCE (Civil Engineering).*

Robert Arthur Barton.
Tracy Irwin Phelps.
Mark Bernardi Burgher.
Ramon Rivera.

5. *BACHELOR OF SCIENCE (Chemistry and Metallurgy).*

Damon Duffield Dunkin.

APPENDIX.

SUMMER SESSION OF THE UNIVERSITY, 1907.

Courses in the following subjects will be offered:

Agriculture.	History.
Botany.	Horticulture.
Chemistry.	Latin.
Civil Government.	Manual Training.
Economics.	Mathematics.
Education.	Music.
Elocution.	Philosophy.
English.	Physical Geography.
Freehand Drawing.	Physics.
French.	Psychology.
German.	Zoology.

The Summer Session will open on Saturday, June 8, and continue until Wednesday, August 7. There will be one term of two months, inclusive of registration and examinations. The courses are arranged primarily with a view to the needs of teachers, and the time of the Summer Session has also been adapted to them.

There are no formal examinations for admission. Students are admitted to such courses as they are prepared for. A sufficient variety of courses is offered to meet the needs of all teachers, whether engaged in elementary or secondary instruction. All courses will be credited toward the degree and certificate from the Teachers College, and most of them will also be credited toward the A. B. degree.

The grades made in the Summer Session are accepted by the State Superintendent and by County Boards in lieu of examinations for teachers' certificates. Practically every subject that is accredited on Five Years' Certificates and Life Certificates is offered in this Summer Session.

The fee for admission is $5 for the entire Summer Session. Each student who takes laboratory work in Agriculture and Horticulture, Botany, Chemistry, Physics, or Zoology is required to make a deposit of $5 with the Secretary of the University to cover

laboratory fee of $2.50 and damage to or loss of University property.

Good board, including room and service, may be had in private families at from $3 to $4.50 per week. If the students choose to organize themselves into a club the expense of living may be much reduced.

All the railroads in the State have granted a rate of one fare and one-third for the round trip for those who attend the Summer Session.

For further information in regard to the Summer Session, and for Circular of the Summer Session of 1907, address

THE DIRECTOR OF THE SUMMER SESSION,
Columbia, Missouri.

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SEP 17 190

BULLETIN

OF THE

UNIVERSITY OF MISSOURI

CATALOGUE

SIXTY-SIXTH REPORT OF THE CURATORS TO THE GOVERNOR OF THE STATE

1907-1908.

COLUMBIA, MISSOURI.

Published by the University of Missouri. Issued monthly. Entered April 12, 1902, at Columbia, Missouri, as second-class matter under act of Congress, July 16, 1894.

UNIVERSITY OF MISSOURI

¶ *"Religion, morality and knowledge being necessary to good Government and the happiness of mankind, schools and the means of education shall forever be encouraged." Ordinance of 1787.*

UNIVERSITY OF MISSOURI.

CATALOGUE

Sixty–Sixth Report of the Curators to the Governor of the State.

1907-1908.

COLUMBIA, MISSOURI.

CALENDAR FOR 1908-1909.

1908.

JANUARY.

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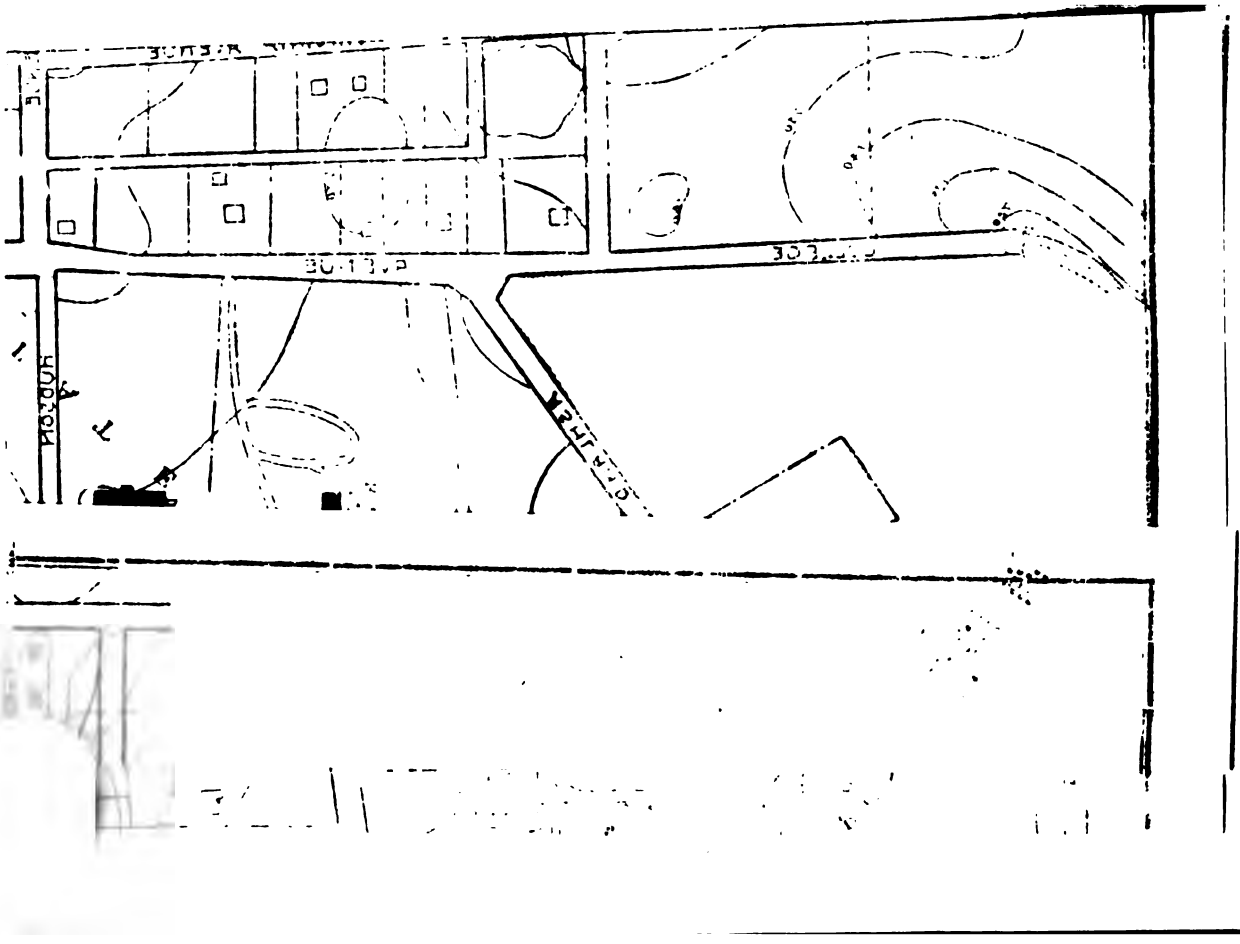
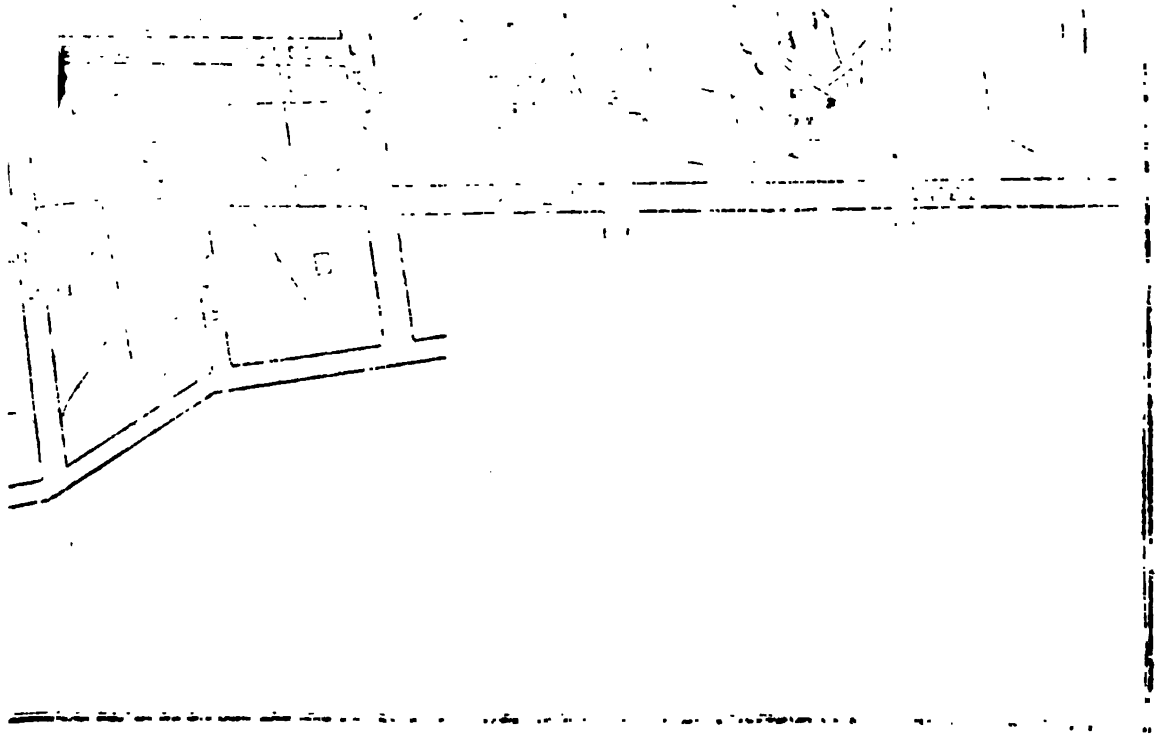




UNIVERSITY CALENDAR.

At Columbia.

1908—January 20-25 .....Mid-Year Examinations
January 27-29 .....Entrance Examinations
January 27, Monday .....Second Semester Begins
February 22, Saturday .....Holiday
April 2, Thursday.....Quarterly Meeting of the Curators
May 25-30 .....Final Examinations
May 30, Saturday .....Stephens Medal Contest
May 31, Sunday .....Baccalaureate Sermon
June 1, Monday .....Class Day
June 1-3 .....Entrance Examinations
June 2, Tuesday.....Alumni and Phi Beta Kappa Day
June 3, Wednesday.....Annual Meeting of the Curators
June 3, Wednesday.....Commencement Day
June 4-6.....Registration Days, Summer Session
June 8, Monday.....Lectures of Summer Session Begin
August 7, Friday.....Summer Session Closes
September 14-16 .....Entrance Examinations
September 14, Monday.....All Departments Open
September 17, Thursday.....Opening Convocation
September 18, Friday.....Class Work Begins
November 25, Wednesday, at 4 p. m. to
November 30, Monday, at 8 a. m...Thanksgiving Holidays
December 8, Tuesday.....Semi-Annual Meeting of Curators
December 23, Wednesday, at 4 p. m. to
1909—January 5, Tuesday, at 8 a. m..... } Christmas Holidays
January 25-30.....Mid-Year Examinations
February 1-3.....Entrance Examinations
February 1, Monday.....Second Semester Begins
February 22, Monday .....Holiday
April 1, Thursday.....Quarterly Meeting of Curators
May 24-29.....Final Examinations
May 29, Saturday.....Stephens Medal Contest
May 30, Sunday.....Baccalaureate Sermon
May 31, Monday .....Class Day
May 31 to June 1.....Entrance Examinations
June 1, Tuesday.....Alumni and Phi Beta Kappa Day
June 2, Wednesday.....Annual Meeting of Curators
June 2, Wednesday .....Commencement Day

UNIVERSITY CALENDAR—Continued.

At Rolla.

1908—January 2, Thursday.....Second Term Begins
February 22, Saturday.....Holiday
March 16, Monday.....Third Term Begins
May 30 to June 5, inclusive.....Final Examinations
June 10, Wednesday.....Annual Commencement
September 19-21, Saturday and Monday..Entrance Examinations
September 22, Tuesday.....First Term Begins
October 1, Thursday.....Quarterly Meeting of Curators
November 26, Thursday.....Thanksgiving Holiday
December 22, Tuesday, at 4 p. m.....Christmas Recess Begins
1909—January 5, Tuesday, at 8 a. m.....Second Term Begins
February 22, Monday.....Holiday
March 22, Monday.....Third Term Begins
June 9, Wednesday.....Annual Commencement

The Board of Curators reserves the right, without further notice, to modify any announcement made in this Catalogue, if circumstances should render such change necessary, and they will be bound by it in any event only for the session following the date of publication.

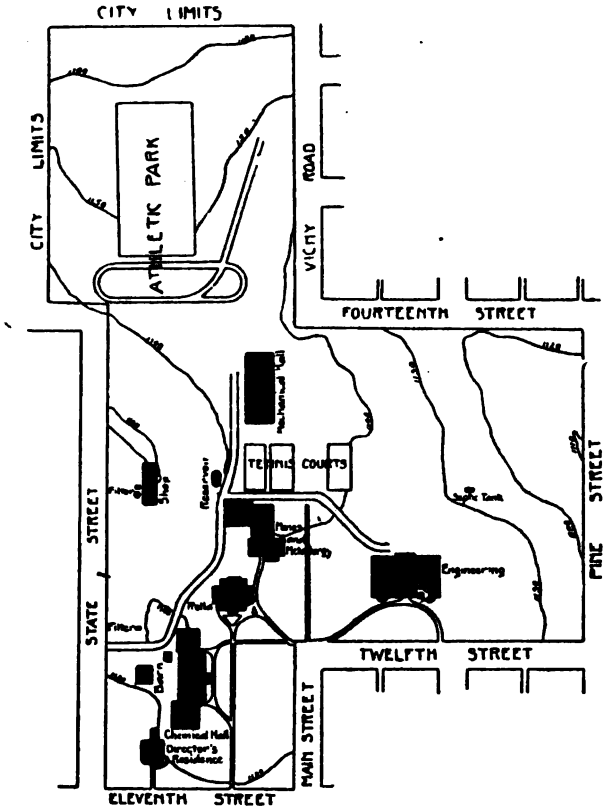
MAP

OF THE CAMPUS AND GROUNDS OF THE

UNIVERSITY OF MISSOURI

AT ROLLA

Scale 1 in. 400 ft



REPORT OF THE BOARD OF CURATORS.

COLUMBIA, MISSOURI, 1 April, 1908.

To His Excellency, Joseph W. Folk, Governor of Missouri:

SIR—I have the honor to present herewith the annual catalogue of the University of Missouri, reviewing in part the work of the current session and outlining, as far as possible, the programme for the next scholastic year (—that of 1908-9).

The session of 1906-7 closed at Columbia on 5 June, and in our School of Mines at Rolla on 8 June, 1907. The work which I am to review began with the opening of the Summer Session at Columbia on 8 June, 1907. The Summer Session, as you know, is counted as a part of the following session—as a sort of introduction to it. The enrollment in this Summer Session reached 453. It was the largest that we have had since this work was placed upon a University basis. The Summer Session closed 7 August. The regular session of the University, 1907-8, opened at Columbia on 9 September, and at Rolla on 17 September, 1907. Up to the present date (1 April) the enrollment in the regular session of 1907-8 has reached 2304 at Columbia, and 229 at Rolla, which is the largest enrollment that we have yet had at either place. Thus in the Summer Session and in the Winter Session (both at Columbia), and in the Winter Session at Rolla, our enrollment for the year 1907-8 has been 2533, surpassing that of any previous year. The gain has been 241 students. Naturally, some students enroll in the Summer Session who enroll in the Winter Session also. These have been carefully deducted, no students being counted more than once. If the University continues to grow at this rate, our enrollment in 10 years more will be nearly 5,000. Whether this growth will or will not continue is not known to the writer. To him, at least, it does not seem that we have more than begun to develop our possibilities of growth.

The number of Extension Students last year was 244, while this year it is only 133. These Extension Students have not been included in the estimates made in the preceding paragraph.

The increase in attendance is distributed as follows: Arts and Science 80, Agriculture 75, Engineering 67, School of Mines 19, making a total of 246; but a slight decrease in two Departments reduces the final increase to 241.

GRADUATE DEPARTMENT.

I am glad to report that the registration of graduate students at Columbia during the present session is 154, as compared with 138 during the session of 1906-7, which is an increase of nearly 12%. Of those registered during the present session at Columbia 115 are in residence and 33 are in absentia. At Rolla, during the present session, 1 student is registered in graduate work in residence and 5 in absentia. This makes a total enrollment of graduate students in residence and in absentia at Columbia and at Rolla in the session of 1907-8 of 154. We should reorganize this Department. It should be the greatest Department in the University if ours is to be a very great University.

Good work seems to have been done by the Teachers College in graduate work and undergraduate work, and in the Summer Session, all within the University itself; in the State at large it has done good work among Teachers Institutes, in rendering assistance to teachers and in promoting the visitation of Accredited Schools. The number of schools visited by the Inspector up to 7 March was ninety-six. He then planned to visit not less than seventy-five more before the close of the present session. If his resolution is carried out, he will have visited one hundred and sixty-nine schools during the present session as a special representative of the University.

During this biennial period Mr. J. T. Gerould, our Chief Librarian, resigned to go to Minnesota University. In his stead we have been so fortunate as to secure Mr. H. O. Severance, who has proved to be very satisfactory. Our library has grown some, but is far from being what it should be. Nevertheless, it contains more than 100,000 volumes, carefully catalogued, and the library of the State Historical Society in the same building with the University Library contains 45,000 volumes. Thus our Academic Hall contains in the basement and on the ground floor 145,000 volumes accessible to students.

During the session of 1906-7 Dr. George E. Ladd, Director of the School of Mines at Rolla, filed his resignation. In his place the Board elected Prof. Lewis E. Young, whose services have proved to be very satisfactory.

An Engineering Experiment Station is of great importance to the University of Missouri. We have been making considerable progress towards the establishmment of such a station here. There was introduced into Congress last winter a Bill extending government aid to such stations. It was entitled H. R. 9230. Some members of Congress are beginning to feel that the Nation may be benefited by

fine Experiment Stations in Engineering as it has been, undoubtedly, benefited by fine Agricultural Experiment Stations; and that government aid should be extended to both. The enormous natural resources of the State of Missouri, its lead and zinc and coal, its clay and shale for brick, pottery and cement, its granite, prophyry, sandstone, lime-materials, etc., have hardly been definitely located, much less exhausted; so no problems are of more importance to the material interests of the State than those connected with the conservation of our natural resources and the economical and efficient utilization of them.

Such problems can best be solved by an engineering experiment station established by the University on a plan similar to that of the Agricultural Experiment Station. It is proposed that this experiment station shall undertake investigations which will be of the most immediate, practical and direct benefit to the people of the State along the lines of sanitation, ventilation, drainage, river control and polution of streams, of clay, pottery and cement making, of forest and timber preservation, of road and pavement construction, of light, heat and power supply. Already such engineering experiment stations have proved of immense benefit in other states. But H. R. 9230 has been postponed to the next Congress. Will the State help?

In addition to the work done in Columbia, the University does considerable extension work. I am not thoroughly convinced that this is wise. Undoubtedly it does considerable good, but undoubtedly for the sake of people in various parts of the State it does take lectures away from students at Columbia that come for instruction. At the date of my writing, 1 April, 1908, the number of extension students enrolled in various parts of Missouri is 133. The students enrolled here have unquestionably a higher claim for instruction upon our lecturers, and I am quite sure that we have not enough lecturers to meet the claims of all.

In a better and a higher class we should place students of the University who graduate here, but being called away thereafter, still carry on work by correspondence with their professors here. This is graduate work in absentia, and under rather good conditions.

I cannot call the attention of your Excellency too pointedly to the lack of buildings at Columbia. Every building on the campus is crowded to its utmost capacity. But our sorest need is for a laboratory of Physics and another of Chemistry. These laboratories should not cost less than $200,000 apiece. A laboratory of Chemistry would help greatly the Department of Agriculture, and indeed every professional Department in the University, except that of Law. A

laboratory of Physics would help immensely our Engineering Department. All the Physics that is taught in the University of Missouri is taught in a portion of one of the Engineering Buildings. It is patent that this combination is most undesirable, and that it precludes the attainment of exact and satisfactory results. Physics is a science that of all others requires the greatest nicety and accuracy of weight and measurement. It is impossible to do any exact work in many directions in Physics, unless the building from ridgepole to foundation stone is delivered from all forms of tremor. The thundering of railroad trains passing near to the Physics building destroys the accuracy of this work. Engineering, to be successful, has to do much work that causes tremor in the building, and unfortunate results in the calculations in Physics occur. The Engineering Department needs every inch of floor space now given to Physics, and Physics, in the name of decency, needs a building for itself, and one well removed from the Engineering Buildings.

Well nigh all the Chemistry of the University is done in one little $35,000 building. The like of this cannot be found in any university of nearly our size or grade in the Federal Union, and perhaps, indeed not in the whole world.

Since the spring of 1906 a multitude of teachers and officers of the University have been called to other institutions at higher salaries or with higher rank. It has been impossible for us to meet the competition in every case. We have lost some fine teachers. But I am happy to say that in a great majority of cases we have succeeded in retaining them. Some increase in salary on our part was necessary in most cases, but in many cases the salary that we finally offered was considerably smaller than that offered by the competing University. Our men have generally felt that Missouri was a field of great opportunity in education, and that the question should not be decided by money alone. Affection for the University of Missouri also played some part in the choice of some. For this success in retaining the men that have been called from us of late, I feel profoundly grateful. Probably no University in America has had so large a percentage of its men called to other institutions as this University has within the last two years. The reason for this widespread calling is that the Curators, the President, and the Deans of our University have displayed great care and discrimination in choosing its faculties, and other institutions have found it out; and moreover our salaries are small.

It seems to me eminently foolish to let a good man leave the

service of our University unless we are compelled to do so. But if we are to retain our best men against the bids of other universities, we must pay as good salaries as other universities pay. So far as internal administration is concerned, no question in the University of Missouri seems to me of greater importance than this question of salaries for our best men. There are fourteen large universities in America that pay better salaries than our University does, and that generally get our men whenever they want them. No reason appears to me why Missouri cannot pay as good salaries as any one of these fourteen institutions. It is not fair to the President and the Curators to expect them to maintain at Columbia the present high standard in their faculties with other institutions constantly soliciting our men at higher salaries. Moreover, our best men are worth the salaries that these fourteen other institutions give their best professors. It is morally wrong for Missouri to attempt to retain some of her men on the salaries that are paid them here now.

Nor are all of these 14 universities in the north. The Johns Hopkins in Baltimore, Maryland, pays much handsomer salaries than we do and covers much less ground. It prefers to cover a smaller amount of ground, to pay decent salaries as it goes, and to have work of the best quality. Another, the University of Virginia, in that grand old dilapidated State, pays all its head professors, as I understand it—certainly three-fourths of them—$3000 a year and a house. No house that the average head professor would live in could be had here for less than $400 to $500 a year, thus making the salary there $3400 to $3500, according to the quality of the house. We called here recently a Professor of Philosophy, and Texas called him at the same time. He looked us over, looked Texas over, and decided to go to Texas. It is true that we offered him only $2500 and Texas offered him $3000. Without being positively sure, I would say that the cost of living at the University of Virginia and at Austin is not greater than it is at the University of Missouri. It is only a little higher in Baltimore.

What I am saying does not apply to the salary of the President or of the Deans, but solely to the salaries of our best professors not connected with administrative work—to the salaries of men who spend their lives in teaching, investigating and publishing. The salaries paid to the best of such men at some 14 other universities vary from $3,000 and a house to $8,000 a year, according to the cost of living and the quality of the man. This I am saying upon the authority of letters

received from the Presidents of these universities, which letters your Excellency can see at any time.

In a number of our commonwealths the maintenance and support of the State University is derived from a tax on all property. Except by amendment of the statutes, the Legislature has no power to increase or to diminish this sum of money. In such States the University may appeal to the Legislature for buildings, books, and equipment, but its maintenance and support are fixed by law. Many States have adopted this method. Sooner or later, Missouri and every other State that has a University will adopt the same method. The rate of taxation correct up to 15 March, 1908, for the maintenance of the University in each of these 11 or more States is given below:

California—Two-fifths mill tax for the University of California.

Colorado—Two-fifths mill tax for the University of Colorado; one-fifth mill for the State School of Mines; one-fifth mill for the State Agricultural College. In Missouri this would give the whole University four-fifths mill tax.

Indiana—One-tenth mill tax for Indiana University; one-tenth mill for Purdue University.

Kentucky—One-twentieth mill tax on the property of the white people for the Agricultural and Mechanical College of Kentucky. In 1904, in addition to the tax levy, Kentucky gave her College of Agriculture $150,000.

Michigan—Three-eighths mill tax for the University of Michigan; one-tenth mill, but not to exceed $100,000, in any one year, for the State Agricultural College. The University is aiming to have the Legislature change its rate from three-eighths to one-half mill per annum.

Minnesota—Twenty-three one-hundredths mill tax for the University of Minnesota.

Nebraska—One mill for the University of Nebraska.

North Dakota—Thirty-three one-hundredths mill tax for the University, including School of Mines; one-fifth mill for the North Dakota Agricultural College; three one-hundredths mill for the School of Forestry.

Ohio—Sixteen one-hundredths mill tax for the Ohio State University; two and a half-hundredths mill for Ohio University; one-fortieth mill for Miami University; one-hundredth mill for Wilberforce University.

Wisconsin—Two-sevenths mill tax for the University of Wisconsin.

Wyoming—Three-eighths mill tax for the University of Wyoming.

In 1906 the State of California, in addition to the regular tax levy, appropriated $350,000 for maintenance and support of the State University for each of two years.

The following States have made provision for their Normal Schools also:

Colorado—One-fifth of a mill for the State Normal School.

Indiana—Three-fortieths of a mill for the State Normal School.

North Dakota—Twelve one-hundredths of a mill for the Normal School at Valley City; and twelve one-hundredths of a mill for the Normal School at Devil's Lake.

Wisconsin—State tax for seven Normal Schools, which tax is fixed for the seven since 1903 at $230,000 a year. (Wisconsin School Report 1904-5, p. 109.)

In my opinion, this is the most important question affecting the University and the future of higher education in Missouri.

From 1 January, at the beginning of each Biennial period, to the adjournment of the Legislature, the University has to run on borrowed money. It comes to the end of the Biennial period penniless, for with the best appropriations it takes the strictest economy to bring the University to the close of the Biennial period free of debt. We have to begin the Biennial period on borrowed money, and on borrowed money we have to live for several months until the appropriations for us are finally completed. The foremost University of learning in the State—the foremost institution of learning within a range of many States—one of the dozen foremost universities of America—the head of the Public School system of this great commonwealth—the model for many universities in many parts of the country—has to live for some three and a half months on money borrowed at a good rate of interest. When this present Biennial period comes to a close, no one knows whether the Legislature will give the University money enough to live on for another Biennial period. That it will give the University an appropriation is reasonably certain, but if the Legislature were to fail to give us an appropriation commensurate with our growth and our needs, we should be ruined. The plan adopted in the States mentioned above for the maintenance and support of their universities, makes the income of the University increase with the property of the State. We should be perfectly satisfied if the income of the University increased as the value of property in Missouri increases. The present method of supporting the University is hazardous from the standpoint of wise educational policy, and from the standpoint of sound

statecraft. Your Excellency must agree—does agree with this view. A former message to the Legislature recommending what I am advocating in this report, commits you to this policy. The pressure of business and accidents alone kept the Legislature from adopting your suggestion. I trust that your Excellency will labor in this behalf to the end of your administration, and will leave behind you as a monument to your wisdom, *stable maintenance* for the University and the Normal Schools of the State.

Very respectfully yours,

C. B. FARRIS,

President of the Board of Curators.

CORPORATION.

THE BOARD OF CURATORS.

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J. V. C. KARNES, Kansas City..... P. E. BURTON, Joplin..... S. L. BAYSINGER, Rolla.....	Term expires January 1, 1913.

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OFFICERS OF INSTRUCTION AND ADMINISTRATION.

Names are printed in the several groups in the order of appointment. Those marked with a * are names of officers or members of the Faculty of the School of Mines and Metallurgy at Rolla, Missouri.

RICHARD HENRY JESSE, LL. D.,

President, and Professor of Ancient and Mediaeval History.

Student, University of Virginia, 1873-5, and part of 1878; Dean of Academic Department, University of Louisiana, 1878-84; Professor of Latin, Tulane University, 1884-91; studied in Europe part of 1885 and of 1890; LL. D., Tulane University, 1891; Member of "Committee of Ten," 1892-3; Member of Administrative Board, Congress of Arts and Science, Louisiana Purchase Exposition, St. Louis, 1904; LL. D., University of Wisconsin, 1904; LL. D., South Carolina College, 1905; awarded Commemorative Diploma, and Medal "In recognition of distinguished services to Education," Louisiana Purchase Exposition, St. Louis, 1904; President of National Association of State Universities, 1905-06; delegate from the United States to First International Congress of Radiology in Belgium, summer of 1905; studied in University of Munich, Spring and Summer Semester, 1905, and in University of Berlin, Fall and Winter Semester, 1905-06; LL. D., Missouri Valley College, 1906; LL. D., Washington University, 1907; President of University of Missouri, July, 1891-July, 1908.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,

President-Elect, and Professor of Educational Psychology.

A. B., Dalhousie University, 1892; Scholar in Philosophy, Cornell University, 1892-3; Student at Heidelberg, Berlin, and Strassburg Universities, 1893-4; Fellow in Philosophy, Cornell University, 1894-5; Ph. D., Cornell University, 1895; Student in Clark University, Summer of 1896; LL. D., University of South Carolina, 1905; Professor of Psychology and Education, State Normal School, Oshkosh, Wisconsin, 1895-7; Associate Professor of Philosophy, University of Nebraska, 1897-8; Professor of Philosophy and Director of the Psychological Laboratories, 1898-1903; Head of the Department of Education, University of Missouri, 1903-04; Professor of Educational Psychology, and Dean of the Teachers College, 1904-07; Professor of Philosophy of Education, Director of the School of Education, and Dean of the College of Arts and Sciences, Cornell University, 1907-08; President of the University of Missouri, July 1, 1908—.

PAUL SCHWEITZER, Ph. D., LL. D.,

Professor of Agricultural Chemistry.

Student under Schneider, Sonnenschein, and H. Rose at Berlin, 1858-60; Chemist to the Soda Ash Works, Schoeningen, 1860-2; Chemist to the Chemical Works at Detmold, 1862-3; Assistant Professor of Chemistry, Polytechnic Institute, Philadelphia, 1865-6; Assistant in School of Mines, Columbia College, 1866-72; Ph. D., University of Goettingen, 1869; LL. D., University of Missouri, 1897; Professor in the University of Missouri, 1872—.

ANDREW WALKER McALESTER, A. B., M. D., LL. D.,

Professor of Surgery, and Dean of the Department of Medicine.

A. B., University of Missouri, 1865, M. D., 1866, A. M., 1868, LL. D., 1897; studied abroad, 1873 and 1885; Professor of Surgery, University of Missouri, 1873-1880; President of State Board of Health, 1901-05; Superintendent Parker Memorial Hospital, 1901-05; Professor of Surgery and Dean of Department of Medicine, University of Missouri, 1880—.

WOODSON MOSS, M. D., LL. D.,

Professor of the Practice of Medicine and Therapeutics, and Tutor to the University.

M. D., University of Missouri, 1874; Instructor in Medicine and Demonstrator of Anatomy, 1875-8; Professor of Anatomy and Demonstrator, 1878-83; Professor of Anatomy and Physiology, 1883-91; studied in Europe, 1890; Professor of Anatomy and the Practice of Medicine, University of Missouri, 1891-1900; LL. D., 1901, Tutor to the University, 1906—; Professor of the Practice of Medicine and Therapeutics, 1900—.

EDWARD ARCHIBALD ALLEN, Litt. D.,

Professor of English Language and Literature.

Student, Randolph-Macon College, 1861-2; University of Virginia, 1866-8; Professor of Latin and Greek, Farmville College (Va.), 1873-81; Professor of English and Modern Languages, Central College, 1881-5; Litt. D., Washington and Lee University, 1890; Professor of English, University of Missouri, 1885—.

WILLIAM GWATHMEY MANLY, A. M.,

Professor of Greek Language and Literature.

University of Virginia, 1882-4; Assistant Head Master, McCabe's University School, 1884-6; Professor of Greek, Mercer University, 1886-9; A. M., Harvard University, 1890; American School of Classical Studies at Athens, and traveling in Greece, 1900; University, Berlin, 1904; Professor of Greek, University of Missouri, 1890—.

JOHN CARLETON JONES, A. B., A. M., Ph. D.,

Professor of Latin Language and Literature, and Dean of the College of Arts and Science.

A. B., Westminster College, 1879, A. M., 1882, Ph. D., 1891, Professor of Latin, 1880-82; Graduate Student, Johns Hopkins University, 1882-3; Assistant Professor of Latin and Greek, University of Missouri, 1883-7, Associate Professor of Latin, 1887-91; Student, University of Leipzig and at Rome, 1895-6; Student, University of Munich, 1903-4; Acting President, University of Missouri, 1905-06; Professor of Latin, University of Missouri, 1891—; Dean of College of Arts and Science, 1900—.

JOHN WALDO CONNAWAY, D. V. S., M. D.,

Professor of Veterinary and Comparative Medicine, and Veterinarian to the Experiment Station.

D. V. S., Chicago Veterinary College, 1890; M. D., University of Missouri, 1891; Student, Johns Hopkins University, 1894-5; Professor of Physiology, University of Missouri, 1891-7; Professor of Physiology, and Veterinarian to the Experiment Station, 1897-1900; Student, Hygienic Institute, Royal Veterinary School, Hanover, 1904; University of Berlin, 1905; Professor of Comparative Medicine, and Veterinarian to the Experiment Station, University of Missouri, 1900—.

JOHN DAVISON LAWSON, LL. D.,

Professor of Contract and International Law, and Dean of the Department of Law.

LL. B., Osgoode Hall, 1875; B. C. L., Trinity College, 1875; Editor *Central Law Journal*, 1876-81; Practiced law, 1876-85; Judge Civil Court, 1886-91; LL. D., University of Missouri, 1892; Professor of Law, 1891-1903; President Missouri Bar Association, 1904-5; Professor of Contract and International Law, and Dean of the Department of Law, 1903—.

JOHN PICKARD, A. B., A. M., Ph. D.,

Professor of Classical Archaeology and History of Art, and Curator of the Museums of Art and of Classical Archaeology.

A. B., Dartmouth College, 1883, A. M., 1886; Student, University of Leipzig, 1889, University of Berlin, 1890 and 1895, American School of Classical Studies in Athens, 1890-1, University of Munich, 1891-2; Ph. D., University of Munich, 1892; Student, American School of Classical Studies in Rome, 1901-2; Dean of Academic Faculty, University of Missouri, 1898-9; Acting Dean of the Academic Faculty, 1904-5; Professor of Classical Archaeology, 1892—.

JOHN CHARLES WHITTEN, B. S., M. S., Ph. D.,

Professor of Horticulture, Horticulturist to the Experiment Station, and Tutor to the University.

B. S., South Dakota Agricultural College, 1891, M. S., 1899; Instructor in Horticulture, and Horticulturist (in charge) to the Experiment Station, South Dakota Agricultural College, 1892; Student, Cornell University, 1892; Assistant in Horticulture, Missouri Botanical Garden, 1893-4; Ph. D., University of Halle-Wittenberg, 1903; Tutor to the University, 1905—; Professor of Horticulture, and Horticulturist to the Experiment Station, University of Missouri, 1894—.

HENRY JACKSON WATERS, B. S. A.,

Dean of the College of Agriculture and Mechanic Arts, and Director of the Experiment Station.

B. S. A., University of Missouri, 1886; Assistant Secretary, Missouri State Board of Agriculture, 1886-8; Assistant in Agriculture to the Missouri Experiment Station, 1888-91; Professor of Agriculture, Pennsylvania State College, and Agriculturist to the Experiment Station, 1892-5; Director State Agricultural Exhibit, World's Fair, St. Louis, 1903-4; Student at the Universities of Leipzig and Zurich, 1904-05; Dean of the College of Agriculture and Mechanic Arts, and Director of the Experiment Station, University of Missouri, 1895—.

BENJAMIN FRANKLIN HOFFMAN, B. L., M. L.,

Professor of Germanic Languages.

B. L., University of Missouri, 1884, M. L., 1888; Assistant Professor of Modern Languages, University of Missouri, 1887-92; Student Paris and Munich, 1892-3; Professor of Modern Languages, University of Louisiana, 1893-5; Student, University of Chicago, Summer Sessions, 1894, '95, '97; University of Leipzig, 1902-3, Summer Semester, 1906; Professor of Germanic Languages, University of Missouri, 1895—.

FREDERICK BLACKMAR MUMFORD, B. S., M. S.,

Professor of Animal Husbandry, and in charge of Animal Husbandry Department of the Experiment Station.

B. S., Michigan Agricultural College, 1891, M. S., 1893; Assistant in Michigan Agricultural Experiment Station, 1891-5; Assistant Professor of Agriculture, Michigan Agricultural College, 1893-5; Student, University of Leipzig, 1900, Zurich, 1901; Professor of Agriculture, University of Missouri, 1895-1904; Acting Dean of the College of Agriculture and Mechanic Arts, and Acting Director of the Experiment Station, 1903-05; Professor of Animal Husbandry, 1904—; in charge of Animal Husbandry Department in the Experiment Station 1906—.

†JOHN MOORE STEDMAN, B. Sc.,

Professor of Entomology, and Entomologist to the Experiment Station.

B. Sc., Cornell University, 1888; Instructor in Invertebrate Zoology and Entomology, and Assistant Entomologist to the Experiment Station, 1888-90; Biologist to the United States Department of Agriculture, 1890-1; Professor of Biology, Trinity College, 1891-3; Professor of Biology, Alabama Polytechnic Institute, Agricultural and Mechanical College, and Biologist to the Experiment Station, 1893-5; Professor of Entomology, and Entomologist to the Experiment Station, University of Missouri, 1895—.

RAYMOND WEEKS, A. B., A. M., Ph. D.,

Professor of Romance Languages.

A. B., Harvard University, 1890, A. M., 1891; Instructor in French, University of Michigan, 1891-3; Traveling Fellow, Harvard University (Paris and Berlin), 1893-5; Ph. D., Harvard University, 1897; Student at Paris, 1904-5; Professor of Romance Languages, University of Missouri, 1895—.

WILLIAM GEORGE BROWN, B. S., Ph. D.,

Professor of Chemistry, and Director of the Laboratories.

Miller Scholar, University of Virginia, 1875, B. S., 1877; Professor of Chemistry, East Tennessee University, 1877-8; Professor of General and Agricultural Chemistry, University of Tennessee, 1878-80; Professor of Chemistry and Mineralogy, 1880-3; Student, University of Heidelberg, 1880-1; Instructor in Chemistry, University of Virginia, 1883-5; Morgan Fellow, Harvard University, 1884; Professor of Chemistry and Physics, South Carolina Military Academy, 1885-6; Professor of Chemistry, Washington and Lee University, 1886-94; Ph. D., (Hon.), University of North Carolina, 1889; Assistant Chemist, U. S. Department of Agriculture, 1894-6; Editor, University of Missouri Studies, 1904—; Professor of Chemistry, University of Missouri, 1896-1905; Professor of Chemistry and Director of the Laboratories, 1905—.

JOHN RUTLEDGE SCOTT, A. B., A. M.,

Professor of Elocution.

A. B., Ohio University, 1864, A. M., 1867; studied with James E. Murdoch, 1871; Instructor in Elocution, Washington University, 1877-88; Instructor in Vocal Culture, Johns Hopkins University, 1893-7; Professor of Elocution, University of Missouri, 1897—.

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†On leave of absence, session 1906-07.

*GEORGE REGINALD DEAN, B. S., C. E.,

Professor of Mathematics.

C. E., University of Missouri (School of Mines), 1890, B. S., 1891, Assistant in Mathematics, 1890-1; Professor of Mathematics, Maryville Seminary, 1891-2; Professor of Mathematics, Coe College (Ia.), 1892-3; Assistant in Leander McCormick Observatory, University of Virginia, 1893-4; Teacher of Mathematics, Central High School, Kansas City, Mo., 1894-7; Professor of Mathematics, University of Missouri (School of Mines), 1897—.

ISIDOR LOEB, B. S., LL. B., Ph. D.,

Professor of Political Science and Public Law, and Acting Dean of Teachers College.

B. S., University of Missouri, 1887, M. S., LL. B., 1893, Tutor in History, 1892-4; University Fellow in Jurisprudence, Columbia University, 1894-5; Assistant Professor of History, University of Missouri, 1895-9; Student, University of Berlin, 1899-1900; Professor of History, University of Missouri, 1899-1901; Ph. D., Columbia University, 1901; Professor of History and Administration, University of Missouri, 1901-2; Professor of Political Science and Public Law, 1902—; Acting Dean of Teachers College, 1908-09.

CURTIS FLETCHER MARBUT, B. S., A. M.,

Professor of Geology and Mineralogy, and Curator of the Geological Museum.

B. S., University of Missouri, 1889; A. M., Harvard University, 1894; Instructor in Geology and Mineralogy, University of Missouri, 1895-7; Assistant Professor of Geology and Mineralogy, 1897-9; studied in Europe, 1899-1900; Professor of Geology and Mineralogy, University of Missouri, 1899—.

HOWARD BURTON SHAW, A. B., B. C. E., A. M.,

Professor of Electrical Engineering, and Dean of the Department of Engineering.

A. B., University of North Carolina, 1890, B. C. E., 1891, Instructor in Mathematics, 1889-90, Instructor in Mathematics, Surveying and Drawing, 1891-3; in Engineering Work with Phoenix Iron Company, 1892; A. M., Harvard University, 1894; Assistant in Electrical Engineering Laboratory, Lawrence Scientific School, Harvard University, 1894-6; in Engineering Work with Consolidated Traction Company, 1896; Assistant Professor of Electrical Engineering, University of Missouri, 1896-9; Junior Dean of the School of Engineering, 1904-05; Professor of Electrical Engineering, 1899—; Dean of the Department of Engineering, 1907—.

*AUSTIN LEE McRAE, B. S., S. D.,

Professor of Physics.

B. S., University of Georgia, 1881; S. D., Harvard University, 1886; U. S. Signal Service (Electrical Work), 1882-9; U. S. Signal Service (Missouri State Weather Service), and Assistant Professor of Physics, University of Missouri, 1889-91; Professor of Physics, University of Missouri (School of Mines), 1891-4; Associate Professor of Physics, University of Texas, 1894-6; Consulting Engineer, St. Louis, 1896-9; Professor of Physics, University of Missouri (School of Mines), 1899—.

GEORGE LEFEVRE, A. B., Ph. D.,

Professor of Zoology, and Curator of the Zoological Museum.

A. B., Johns Hopkins University, 1891, Fellow, 1894-5, Bruce Fellow, 1895-7, Ph. D., 1896, Assistant in Zoology and Embryology, 1897-8; Instructor in Zoology, Marine Biological Laboratory, Woods Hole, Mass., 1898-9, Member of Staff of Investigation, 1906—; Temporary Assistant, U. S. Bureau of Fisheries, 1907—; Professor of Zoology, University of Missouri, 1899—.

CHARLES A. ELLWOOD, Ph. B., Ph. D.,

Professor of Sociology.

Ph. B., Cornell University, 1896; Student, University of Chicago, 1896-7, University of Berlin, 1897-8; Fellow in Sociology, University of Chicago, 1898-9, Ph. D., 1899; General Secretary, Charity Organization Society, Lincoln, Nebraska, 1899-1900; Instructor in Sociology University of Nebraska, 1899-1900; Professor of Sociology, University of Missouri, 1900—.

CHARLES WILSON GREENE, A. B., A. M., Ph. D.,

Professor of Physiology and Pharmacology.

A. B., Leland Stanford Jr. University, 1892, A. M., 1893; Ph. D., Johns Hopkins University, 1898; Instructor in Physiology, Leland Stanford Jr. University, 1893-8, Assistant Professor, 1898-1900; Instructor in Zoology, Marine Biological Laboratory, 1896-7, in Physiology, 1900; Fellow in Physiology, Johns Hopkins University, 1897-8; Assistant, U. S. Bureau of Fisheries, 1901—; Professor of Physiology and Pharmacology, University of Missouri, 1900—.

MAX MEYER, Ph. D.,

Professor of Experimental Psychology.

Ph. D., University of Berlin, 1896; Research Work, Psychological Laboratory, University of Berlin, 1896-8; Research Work, Clark University, 1899-1900; Professor of Experimental Psychology, University of Missouri, 1900—.

CLARK WILSON HETHERINGTON, A. B.,

Professor of Physical Training, and Director of Gymnasiums and Athletics.

A. B., Leland Stanford Jr. University, 1895, Instructor, Encina Gymnasium, 1893-6; Anthropologist and Director of Physical Training, Whittier State School, 1896-8; Fellow in Psychology, Clark University, 1898-9; Fellow and Assistant in Psychology, 1899-1900; Student in Europe, 1904-5; Professor of Physical Training, and Director of Gymnasiums and Athletics, University of Missouri, 1900—.

FREDERICK PUTNAM SPALDING, C. E.,

Professor of Civil Engineering.

C. E., Lehigh University, 1880; Member of Engineer Corps, Southern Pacific Railway, 1880-2; Assistant Engineer, Mississippi River Improvements, 1882-6 and 1888-90; Instructor in Civil Engineering, Lehigh University, 1886-8; Engineer in Charge of Street Extensions, Washington, D. C., 1890-1; Assistant Professor of Civil Engineering, Cornell University, 1891-8; Contracting Engineer, Bethlehem, Pa., 1898-1900; Junior Dean of the School of Engineering, 1905-6; Professor of Civil Engineering, University of Missouri, 1900—.

FREDERICK HANLEY SEARES, B. S.,

Professor of Astronomy, and Director of the Laws Observatory.

B. S., University of California, 1895, Fellow in Astronomy, 1895-6, Instructor in Astronomy, 1896-8, Graduate Student, 1898-9; Student, University of Berlin, 1899-1900, University of Paris, 1900-1; Professor of Astronomy, University of Missouri, 1901—.

*VICTOR HUGO GOTTSCHALK, B. S., M. S.,

Professor of Chemistry.

B. S., University of Missouri (School of Mines), 1898; Assistant U. S. Assayer, Kansas City, Mo., 1898-9; Assistant in Chemical Department, Marion-Sims Medical College, 1899; Assistant in Chemistry, University of Missouri (School of Mines), 1899-1900, Instructor in Chemistry, 1900-1, Acting Professor of Chemistry, 1901; Student University of Chicago, 1901, Cornell University, 1901-2; Professor of Chemistry, University of Missouri (School of Mines), 1902—.

‡BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,

Professor of Botany.

B. S., Agricultural and Mechanical College, Mississippi, 1891; M. S., Alabama Polytechnic Institute, 1892; A. B., Harvard University, 1894 (University Scholar), A. M., 1895 (Townsend Scholar); Botanical Assistant, Illinois State Lab. Nat. Hist., 1895-6; Instructor in Botany, Cornell University, 1896-9, Ph. D., 1898; Student, Universities of Leipzig and Halle, 1899-1900; Naples Biological Laboratory, 1900; Assistant Professor of Botany, Cornell University, 1900-1; Physiologist, Bureau Plant Industry, U. S. Department of Agriculture, 1901-2; Student, Universities of Munich and Montpellier, 1905-06; Professor of Botany, University of Missouri, 1902—08.

LUTHER MARION DEFOE, A. B.,

Professor of Mechanics in Engineering, and Tutor to the University.

Fellow in Mathematics, University of Missouri, 1891-2; A. B., Harvard University, 1893; Acting Professor of Mathematics, University of Missouri, 1893-4, Assistant Professor of Mathematics, 1894-7, Acting Professor of Mathematics, 1897-8, Assistant Professor of Mathematics, 1898-1902; Student, University of Cambridge (Eng.), 1902-3; Tutor to the University 1904—; Professor of Mathematics in the Teachers College, University of Missouri, 1904-5; Professor of Mechanics, 1902—.

CLARENCE MARTIN JACKSON, B. S., M. S., M. D.,

Professor of Anatomy and Histology, and Junior Dean of the Department of Medicine.

B. S., University of Missouri, 1898, M. S., 1899, M. D., 1900; Graduate Student, University of Chicago, 1900, 1901; University of Leipzig, 1903-04; University of Berlin, 1904; Fellow in Biology, University of Missouri, 1897-9; Instructor in Anatomy, 1899-1900; Assistant Professor (in charge) of Anatomy and Histology, 1900-02; Professor of Anatomy and Histology, 1902—; Junior Dean of the Department of Medicine, 1906—.

‡Resigned, Jan., 1908.

WALTER McNAB MILLER, B. Sc., M. D.,

Professor of Pathology and Bacteriology.

B. Sc., Ohio State University, 1885; Professor of Natural Science, University of Nevada, 1887-9; Professor of Anatomy, Physiology, and Geology, University of Nevada, 1889-99; M. D., Cooper Medical College, San Francisco, 1895; Bacteriologist and Pathologist, Nevada Agricultural Experiment Station, 1896-9; Student, Post-Graduate Medical Department, University of California, 1896; Johns Hopkins Medical School, 1899-1900; Harvard University Medical School, 1900; University of Leipzig, 1900-1; German University of Prague, 1901-2; Professor of Pathology and Bacteriology, University of Missouri, 1902—.

MAX W. MYER, A. B., M. D.,

Professor of Gynecology and Obstetrics.

A. B., University of Missouri, 1897; M. D., Marion-Sims College of Medicine, 1899; Student, University of Strassburg, 1900, Berlin, 1901; Volunteer-Assistant in the Koenigliche Frauenklink, Munich, and Elizabeth Hospital (Gynecologic pavilion), Vienna, 1901-2; Professor of Gynecology and Obstetrics, University of Missouri, 1902—.

GUY L. NOYES, M. D.,

Professor of Diseases of the Eye and Ear, and Superintendent of the Parker Memorial Hospital.

M. D., University of Vermont, 1894; M. D., University of Michigan, 1901; House Surgeon, Mary Fletcher Hospital, 1895; First Assistant Physician, Northern Michigan Asylum, 1896-1900; Assistant in Ophthalmology, 1901, Demonstrator of Ophthalmic and Aural Surgery, 1902; Harvard University Medical School, Summer Session, 1905; Professor of Diseases of the Eye and Ear, University of Missouri, 1902—; Superintendent, Parker Memorial Hospital, 1906—.

EDWARD WILCOX HINTON, LL. B.,

Professor of Pleading, Practice and Evidence, and Tutor to the University.

LL. B., University of Missouri, 1890; LL. B., Columbia College, New York, 1891; in the General Practice of Law, 1891-1903; Tutor to the University, 1907—; Professor of Law, University of Missouri, 1903—.

VASCO HAROLD ROBERTS, J. U. D.,

Professor of Corporation Law, and Real Property.

Student in Germany, 1898-1901; J. U. D., University of Heidelberg, Germany, 1901; Professor of Private Corporations, Real Property, etc., Drake University, 1901-3; Professor of Corporation Law, and Real Property, University of Missouri, 1903-08.

EARLE RAYMOND HEDRICK, A. B., A. M., Ph. D.,

Professor of Mathematics.

A. B., University of Michigan, 1896; A. M., Harvard University, 1898; Fellow of Harvard University, 1898-1899 (in residence), and 1899-1901 (in absentia); Student at Goettingen, Germany, 1899-1901; Ph. D., Goettingen, 1901; Student at Ecole Normale Superieure, Paris, second semester, 1901; Instructor in Mathematics, Sheffield Scientific School, Yale University, 1901-1903; Professor of Mathematics, University of Missouri, 1903—.

*ELMO GOLIGHTLY HARRIS, C. E.,

Professor of Civil Engineering.

C. E., University of Virginia, 1882; Practical Civil Engineer, 1882-91; Director of School of Mines, 1891-2; Professor of Civil Engineering (School of Mines), 1891-1901; Associate Professor of Civil Engineering, University of Pennsylvania, 1901-3; Professor of Civil Engineering, University of Missouri (School of Mines), 1903—.

MERRITT FINLEY MILLER, B. S., M. S. A.,

Professor of Agronomy, and Curator of Agricultural Museum.

B. S. Agr., Ohio State University, 1900; M. S. A., Cornell University, 1901; Assistant in Soil Survey, Bureau of Soils, U. S. Department of Agriculture, 1901-2; Instructor in Agronomy, Ohio State University, 1902-3; Assistant Professor of Agronomy, 1903-4; Professor of Agronomy, and Curator of Agricultural Museum, University of Missouri, 1904—.

HERMANN BENJAMIN ALMSTEDT, B. L., Ph. D.,

Professor of Germanic Languages.

B. L., B. P., University of Missouri, 1895; Reader in German, University of Chicago, 1895-8, Assistant, 1898-1900, Ph. D., 1900, Associate, 1900-1; Dean in University College (College for Teachers), 1900-1; studied in Germany, 1897; Student, University of Berlin, 1905-06; Assistant Professor of Germanic Languages, University of Missouri (in charge, 1902-03), 1901-05; Professor of Germanic Languages, 1905—.

OSCAR MILTON STEWART, Ph. B., Ph. D.,

Professor of Physics.

Ph. B., De Pauw University, 1892; Ph. D., Cornell University, 1897; Professor of Physics and Chemistry, Baker University, 1892-4; Fellow, Cornell University, 1895-6, Assistant in Physics, 1896-8, Instructor in Physics, 1898-1901; Assistant Professor of Physics, University of Missouri, 1901-05, Professor of Physics, 1905—.

NORMAN MACLAREN TRENHOLME, A. B., A. M., Ph. D.,

Professor of History.

A. B., McGill University, 1895, Graduate Student, 1895-6; Russell Scholar in History, Harvard University Graduate School, 1896-7; Thayer Scholar, 1897-8, A. M., 1897, Assistant in History, 1898-9, Ph. D., 1899; Non-Resident Graduate Student and Harris Fellow in History, studying in Europe, 1899-1900; Professor of History and English Literature, Western University (Can.) 1900-01; Instructor in History and Political Science, Pennsylvania State College, 1901-02; Professor of Medieval History, Harvard University, Summer School, 1907; Assistant Professor (in charge) of History, University of Missouri, 1902-05, Professor of History, 1905—.

JUNIUS LATHROP MERIAM, A. B., A. M., Ph. D.,

Professor of Theory and Practice of Teaching, and Acting Dean of Teachers College.

A. B., Oberlin College, 1895; Student, New York State Normal College, 1897-8; Austin Scholar, Harvard University, 1901-2; A. M., Harvard University, 1902; Ph. D., Columbia University, 1905; Superintendent of Schools (Wakeman, Ohio), 1895-7; Principal of Elementary Schools (Akron, Ohio), 1898-9; Supervisor of Practice Teaching (New York State Normal College), 1899-1901; Assistant in Philosophy, Harvard University, 1902-3; Assistant in History of Education, Columbia University, 1903-4; Assistant Professor of Theory and Practice of Teaching, University of Missouri, 1904-05, Professor of Theory and Practice of Teaching, 1905—; Acting Dean of Teachers College, 1907-08.

JOSEPH FRAZIER, Captain, Fourteenth United States Infantry,

Professor of Military Science and Tactics, and Commandant of Cadets.

Graduate Normal Department, Missouri State University, 1885; Graduate United States Military Academy, West Point, 1891; Graduate United States Infantry and Cavalry School, Fort Leavenworth, Kansas, 1897; Second Lieutenant, Nineteenth United States Infantry, 1891; First Lieutenant, Ninth United States Infantry, 1898; Captain, Fourteenth United States Infantry, 1900; Expedition against Santiago de Cuba and occupation of city, 1898; Aide-de-camp to Brigadier General Ewers in Cuba, 1898-9; Philippine Campaign, 1899-1901; Chinese Relief Expedition, 1900; Recommended for Medal of Honor and Brevet at Tien Tsin; Professor of Military Science and Tactics and Commandant of Cadets, by Special Orders of the War Department, University of Missouri, 1905—.

SIDNEY CALVERT, B. Sc., A. M.,

Professor of Organic Chemistry.

B. Sc., McGill University, 1890; Graduate Student, Harvard University, 1890-4, A. M., 1892; Assistant in Chemistry, 1892-4, Private Research Assistant, 1892-4; Assistant in Chemistry, Harvard Summer School, 1894; Student, University of Freiburg, 1901-2; Assistant Professor of Chemistry, University of Missouri, 1894-1905, Assistant Professor of Organic Chemistry, 1905-06, Professor of Organic Chemistry, 1906—.

†HENRY MARVIN BELDEN, A. B., Ph. D.,

Professor of English Language and Literature.

A. B., Trinity College, 1888; Instructor in English, Lehigh University, 1890-1; University of Nebraska, 1893-4; Student, University of Strassburg, 1894-5; Ph. D., Johns Hopkins University, 1895; Assistant Professor of English Language and Literature, University of Missouri, 1895-06; Professor of English Language and Literature, 1906—.

CLARENCE HENRY ECKLES, B. Agr., M. Sc.,

Professor of Dairy Husbandry.

B. Agr., Iowa Agricultural College, 1895, M. Sc., 1897; Student, University of Wisconsin, 1896; Instructor in Dairying, Iowa Agricultural College and Dairy Bacteriologist to the Iowa Experiment Station, 1896-1901; Instructor in Dairy Husbandry, Massachusetts Agricultural College, Short Course of 1898-99; Student, Universities of Goettingen and Berne, 1904-5; Assistant Professor (in charge) of Dairy Husbandry, University of Missouri, 1901-06, Professor of Dairy Husbandry, 1906—.

JONAS VILES, A. B., A. M., Ph. D.,

Professor of American History.

A. B., Harvard University, 1896, A. M., 1897; Teacher in Dalzell's School for Boys, Worcester, 1896-8; Ph. D., Harvard University, 1901; Studied in London, 1901-2; Professor of American History, Harvard University, Summer School, 1907; Instructor in History, University of Missouri, 1902-05; Assistant Professor of History, 1905-07, Professor of American History, 1907—.

HERMAN SCHLUNDT, B. S., M. S., Ph. D.,

Professor of Physical Chemistry.

B. S., University of Wisconsin, 1894, Assistant in Chemistry, 1894-6, M. S., 1896; Instructor in Physics and Chemistry, West Division High School, Milwaukee, Wis., 1896-9; Student, University of Leipzig, 1899-1900; Fellow in Chemistry, University of Wisconsin, 1900-1; Ph. D., 1901, Instructor in Chemistry, 1901-2; Instructor in Chemistry, University of Missouri, 1902-05, Assistant Professor of Physical Chemistry, 1905-07; Professor of Physical Chemistry, 1907—.

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†On leave of absence, second semester, 1907-08.

*LEWIS EMANUEL YOUNG, B. S., E. M.,

Director of the School of Mines and Metallurgy.

B. S., Pennsylvania State College, 1900; E. M., Iowa State College, 1904; Assistant Engineer, Pittsburg Coal Co., 1900; Instructor in Mining, Iowa State College, 1900-1901; Assistant Geologist, Iowa Geological Survey, 1901; Mining Engineer with Champion Copper Co., 1902; Assistant Professor of Mining, Colorado School of Mines, 1904-07; Consulting Mining Engineer, Denver; Director of Missouri School of Mines and Metallurgy, University of Missouri, 1907—.

*HAROLD BARTLETT LITCHMAN, S. B.,

Professor of Mining Engineering and Ore Dressing.

S. B., Massachusetts Institute of Technology, 1903; Department of Mining Engineering, Massachusetts Institute of Technology, 1903-1904; Assistant Superintendent, Sulphide Corporation, 1904-1905; Research Work in Ore Dressing, Massachusetts Institute of Technology, 1906-1907; Foreman, Zinc Furnaces, National Galvanized Works, National Tube Co., 1907; Professor of Mining Engineering and Ore Dressing, University of Missouri (School of Mines), 1907—.

*DURWARD COPELAND, S. B.,

Professor of Metallurgy.

S. B., Massachusetts Institute of Technology, 1903; Assistant to Professor H. O. Hofman and Instructor in Metallurgy, Massachusetts Institute of Technology, 1903-1904; Instructor in Metallurgy and Ore Dressing, Michigan College of Mines, 1904-1907; Professor of Metallurgy, University of Missouri (School of Mines), 1907—.

FRANK GOSNEY NIFONG, M. D.,

Clinical Professor of Surgery.

M. D., Missouri Medical College, 1889; Intern, St. Louis City Hospital, 1889-91; Demonstrator of Anatomy, Missouri Medical College, 1891-3; Assistant Surgeon, St. Louis Mullanphy Hospital (Washington University), 1900-05; Assistant Professor of Genito-Urinary Surgery, and Assistant to the Chair of Surgery, University of Missouri, 1905-1907; Clinical Professor of Surgery, University of Missouri, 1907-08.

‡WERRETT WALLACE CHARTERS, A. B., Ph. M., Ph. D.,

Acting Professor of Theory and Practice of Teaching.

A. B., McMaster University, 1898; B. Paed., Toronto University, 1901; Ph. M., University of Chicago, 1903; Ph. D., University of Chicago, 1904; Student in Ontario Normal College, 1898-99; Principal of Hamilton, Canada, Model School, 1899-1902; Studied at University of Chicago, 1902-1904; Supervisor of Practice Teaching in Winona, Minn., Normal School, 1904-1907; Acting-Professor of Theory and Practice of Teaching, University of Missouri, 1907-08.

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‡Assistant Professor of Education, Sept. 1, 1908—.

GUY MONTROSE WHIPPLE, A. B., Ph. D.,

Acting Professor of Educational Psychology.

A. B., Brown University, 1897; Ph. D., Cornell University, 1900; Scholar and Assistant in Psychology, Clark University, 1897-8; Assistant in Psychology, Cornell University, 1898-1902; Lecturer in Education, Cornell University, 1902-04; Assistant Professor of the Science and Art of Education, Cornell University, 1904— (on leave of absence, 1907-08); Acting Professor of Educational Psychology, University of Missouri, 1907-08.

HENRY CLINTON HILL, A. B., LL. B.,

Professor of Real Property and Corporations.

A. B., Bowdoin College, 1888; LL. B., University of Michigan, 1899; Practiced Law, 1899-1905; Professor of Law, John B. Stetson University, 1905-08; Professor of Real Property and Corporations, University of Missouri, 1908—.

WALTER LAFAYETTE HOWARD, B. S., M. S., Ph. D.,

Professor of Horticulture.

B. Agr., B. S., University of Missouri, 1901, M. S., 1903; Student, Universities of Leipzig and Halle, 1905-06; Ph. D., University of Halle-Wittenberg, 1906; Assistant in Horticulture and Assistant Horticulturist to the Experiment Station, University of Missouri (in charge of Station Work, 1901-2), 1901-3; Instructor in Horticulture, 1903-4; Assistant Professor of Horticulture, 1905-08; Professor of Horticulture, 1908—.

PERRY FOX TROWBRIDGE, Ph. B., A. M., Ph. D.,

Professor of Agricultural Chemistry, and Chemist to the Experiment Station.

B. Pd., Michigan Normal College, 1892; Ph. B., University of Michigan, 1892; A. M., University of Michigan, 1905; Ph. D., University of Illinois, 1906; Instructor in German and Sciences, Kalamazoo College, 1889-91; Instructor in Pedagogy, Michigan Normal College, 1892-3; Assistant in Chemistry, University of Michigan, 1893; Professor of Mathematics, Kalamazoo College, 1894; Assistant in Chemistry, University of Michigan, 1894-5; Student in Braunschweig Zucker Schule, Summer 1898; Student Marburg University, 1898-99; Instructor in Organic Chemistry, and Accountant in the Chemical Laboratory, University of Michigan, 1895-1902; Agricultural Superintendent and Beet Sugar Chemist, Michigan and California, 1902-04; Research Assistant in Nutrition, University of Illinois, 1905; Research Assistant in Nutrition, and Instructor in Chemistry, University of Illinois, 1905-07; Assistant Professor of Chemistry, University of Illinois, 1907 (resigned); Assistant Professor of Agricultural Chemistry and Associate Chemist (in charge) to the Experiment Station, University of Missouri, 1907-08, Professor of Agricultural Chemistry, and Chemist to the Experiment Station, 1908—.

WINTERTON CONWAY CURTIS, A. B., A. M., Ph. D.,

Professor of Zoology.

A. B., Williams College, 1897; A. M., 1898, Assistant in Biology, 1897-8; Assistant in Biology, Johns Hopkins University, 1899-1900; Fellow, 1900-01; Ph. D., 1901; Instructor in Marine Biological Laboratory, Woods Hole, Mass., 1898-1903; Instructor in Zoology, University of Missouri, 1901-04; In charge of Invertebrate Zoology Marine Biological Laboratory, 1908—; Temporary Assistant, United States Fisheries Bureau, 1907—; Assistant Professor of Zoology, University of Missouri, 1904-08; Professor of Zoology, 1908—.

WILLIAM HENRY POMMER,

Professor of Music.

Student, Royal Conservatory of Music at Leipzig, 1872-74; Student, Imperial Conservatory of Music at Vienna, 1874-75; Director of Music, Christian College, 1883-87; Conductor, Arion Musical Club, Milwaukee, 1889-1890, Instructor in Music, Smith Academy (Washington University), 1890-1900; Supervisor of Music, St. Louis Public Schools, 1900-06; President Missouri Music Teachers Association, 1900; Conductor, St. Louis Musical Festival Chorus, 1900; Conductor National Saengerfest, St. Louis, 1903; Chairman, Jury of Awards in Choral Contests, Louisiana Purchase Exposition, 1904; Awarded Commemorative Diploma and Medal, Louisiana Purchase Exposition, 1904; Assistant Professor (in charge) of Music, University of Missouri, 1907-08; Professor of Music, 1908—.

ARTHUR ONCKEN LOVEJOY, A. B., A. M.,

Professor of Philosophy.

A. B., University of California, 1895; A. M., Harvard, 1897; Student Harvard, 1895-8; University of Paris, 1898-9; Assistant Professor of Philosophy, Leland Stanford Junior University, 1899-1900, Associate Professor, 1900-01; Professor of Philosophy, Washington University, 1901-08; Lecturer in Philosophy, Columbia University, 1907-08; Professor of Philosophy, University of Missouri, 1908—.

WALTER WILLIAMS, LL. D.,

Professor of the History and Principles of Journalism, and Dean of School of Journalism.

LL. D., Missouri Valley College, 1906; Editor of *Columbia Missouri Herald*, 1890-1908; Editor of *The Country Editor*, 1895-97; President, Missouri Press Association, 1887; President, National Editorial Association of the United States, 1895; President for North America of World's Press Association, Berne, Switzerland, 1903; Commissioner to Foreign Press, World's Universal Exposition, 1902-1904; Superintendent of Publication for Missouri, World's Universal Exposition, 1903-1905; Professor of the History and Principles of Journalism, and Dean of the School of Journalism, University of Missouri, 1908—.

‡*Professor of the Theory and Practice of Journalism.*

EVA JOHNSTON, A. M., Ph. D.,

Assistant Professor of Latin.

A. M., University of Missouri, 1895, Ph. D., University of Koenigsberg, 1905; Student, University of Missouri, 1892-96; University of Berlin and Heidelberg, 1899-1901; University of Koenigsberg, 1904-05; Assistant Professor of Latin, University of Missouri, 1899—.

WALTER SCOTT WILLIAMS, C. E.,

Assistant Professor of Topographic Engineering.

C. E., University of Missouri, 1885; Subdivision Engineer on Construction, Missouri Pacific Railway, 1886; Assistant Engineer on Location and Construction, K. C., F. S. & M. R. R., 1887-90; Chief Engineer on Location and Construction, Hearne & Brazos Valley R. R., 1891-2; Assistant Engineer with Mississippi River Commission, 1893-1901; Assistant Engineer in charge of Precise Levels, U. S. Lake Survey, 1901; Instructor in Civil Engineering, University of Missouri, 1901-3; Assistant Professor of Civil Engineering, 1903-4; Assistant Professor of Topographic Engineering, 1904—.

ABRAHAM LINCOLN HYDE, Ph. B.,

Assistant Professor of Bridge Engineering.

Ph. B., Yale University, 1886; Assistant Engineer, Berlin Iron Bridge Company, 1886-1891; Assistant Engineer, The King Bridge Company, 1891-92; Principal Assistant Engineer, The King Bridge Company, 1892-94; Principal Assistant Engineer, Frank C. Osborn, 1894; Junior Partner, The Osborn Company, Civil Engineers, 1894-6; Consulting Engineer, Cleveland, Ohio, 1896-1901; Official Photographer, American Bridge Company, 1901; Instructor in Civil Engineering, Lehigh University, 1902-3; Assistant Professor of Civil Engineering, University of Missouri, 1903-4; Assistant Professor of Bridge Engineering, 1904—.

WILLIAM JEPTHA CALVERT, A. B., M. D.,

Assistant Professor of Internal Medicine.

A. B., University of Kentucky, 1893; M. D., Johns Hopkins Medical School, 1898; 1st Lieutenant and Assistant Surgeon, U. S. Army, 1899-1902; in charge of the Laboratory of Board of Health, Manila, P. I., 1900-01; Lecturer on "Tropical Diseases," Washington University, St. Louis, 1902-03; Assistant Professor of Internal Medicine, University of Missouri, 1903—.

WILLIAM BAIRD ELKIN, A. B., Ph. D.,

Acting Assistant Professor (in charge) of Philosophy.

A. B., Manitoba University, 1889; Fellow in Philosophy, Cornell University, 1890-1; Acting Professor of Philosophy, Indiana University, 1891-2; Student, Cornell University, 1892-4; Ph. D., 1894; Acting Professor of Philosophy, Colgate University, 1894-5; Student in Europe, 1895-7; Lecturer on Theory and Practice of Teaching, Teachers College, Columbia University, 1897-9; Acting Professor of Psychology, Logic, and Pedagogics, Hamilton College, 1899-1901; Teacher of History and Civics, Kamehameha Schools, Honolulu, 1901-03; Acting Assistant Professor of Theory and Practice of Teaching, University of Missouri, 1903-04; Acting Assistant Professor of Philosophy, 1904-08.

*LEON STACY GRISWOLD, A. B.,

Assistant Professor of Geology and Mineralogy.

A. B., Harvard University, 1889; Assistant, Arkansas Geological Survey, 1889-91; Assistant, U. S. Geological Survey, 1893-4; Instructor in Geology, Harvard University, 1893-6; Engaged in Mining in Montana, 1896-1903; Instructor in Geology, University of Missouri (School of Mines), 1903-4; Assistant Professor of Geology and Mineralogy (School of Mines), 1904—.

CAROLINE TAYLOR STEWART, A. B., A. M., Ph. D.,

Assistant Professor of Germanic Languages.

A. B., Kansas University; A. M., University of Michigan, 1895; Student, Bryn Mawr College, 1895-6; Fellow in Germanics, 1897; National Association Collegiate Alumnae Fellow, 1898; Woman's Educational Association Special Fellowship, 1899; Ph. D., University of Berlin, 1901; Instructor in Germanic Languages, University of Missouri, 1902-05; Assistant Professor of Germanic Languages, 1905—.

JOHN SITES ANKENEY, JR., A. B.,

Assistant Professor (in charge) of Free Hand Drawing.

A. B., University of Missouri, 1906; Pupil of J. H. Twachtman (Art Students League) and William M. Chase, New York, 1889-90; Pupil of F. V. Du Mond and Augustus St. Gaudens (Art Students League), 1892; Pupil of Julas Lefebvre and Robert Fleury (Academie Tulien), Paris, 1893, 1894; Pupil of Aman Jean, 1895; Student in European Galleries (France, Italy, Spain, etc.), 1903-04 and summer and fall of 1905; Pupil of Dr. Ross, Harvard, S. S., 1901; Supervisor of Drawing, Carthage Schools, 1896-8, Kansas City Schools, 1899-1901; Instructor (in charge) in Free Hand Drawing, University of Missouri, 1901-5; Assistant Professor (in charge) of Free Hand Drawing, 1905—.

JESSE HARLIAMAN COURSAULT, A. B., A. M., Ph. D.,

Assistant Professor of History and Philosophy of Education.

A. B., Ohio State University, 1893, Ph. D., Columbia University, 1907, A. M., 1898; Student, Harvard University, 1899-1900, A. M., 1900; Scholar, Columbia University, 1903-4, Fellow 1904-5; Teacher in Columbus (Ohio) High Schools, 1894-9, and 1900-03; Assistant Professor of Philosophy of Education, University of Missouri, 1905—.

OLIVER DIMON KELLOGG, A. B., A. M., Ph. D.,

Assistant Professor of Mathematics.

A. B., Princeton, 1899, A. M., 1900; Ph. D., Goettingen, 1902; J. S. K. Fellow in Mathematics, Princeton, 1899-1902; Instructor in Mathematics, Princeton, 1903-05; Assistant Professor of Mathematics, University of Missouri, 1905—.

*JOSEPH HENRY BOWEN,

Assistant Professor of Shopwork and Drawing.

Student, Miller School (Va.), 1890-5; Rhode Island School of Design, 1896-7; Instructor in Shopwork and Drawing, University of Missouri (School of Mines), 1902-06; Assistant Professor of Shopwork and Drawing (School of Mines), 1906—.

*LEON ELLIS GARRETT, B. S.,

Assistant Professor of Mathematics.

B. S., University of Missouri (School of Mines), 1901; Assistant in Mathematics, 1901-03, Instructor in Mathematics, University of Missouri (School of Mines), 1903-06; Assistant Professor of Mathematics (School of Mines), 1906—.

THOMAS JACOB RODHOUSE, B. S., M. C. E.,

Assistant Professor of Hydraulic Engineering.

B. S. in Civil Engineering, University of Missouri, 1897; Scholar, Cornell University, 1903-04; Fellow, 1904-05, M. C. E., 1905; Instructor in Drawing, University of Missouri, 1897-1906; Assistant Professor of Drawing, 1906-07, Assistant Professor of Hydraullic Engineering, 1907—.

EDNA D. DAY, B. S., M. S., Ph. D.,

Assistant Professor (in charge) of Home Economics.

B. S., University of Michigan, 1896, M. S., 1897; Student in Normal School (Oswego, N. Y.), 1898; Teacher of Science, Kent Place School for Girls (Summit, N. J.), 1898-99; Teacher of Science in High School and Supervisor of Nature Study in Grades, North Tonawanda, N. Y., 1899-1900; in charge of Departments of Chemistry, Biology, and Home Economics, Lake Erie College (Painsville Ohio), 1900-03; Teacher of Botany in Domestic Science Department, Chautauqua, N. Y., summers, 1899 to 1903; Student in Summer School of Applied Biology and Chemistry, Wesleyan University, 1902; Fellow in Botany, University of Illinois, 1903-04; Fellow in Household Administration, University of Chicago, 1904-06, Ph. D., 1906, Instructor in Household Administration, summer of 1905; Assistant Professor (in charge) Home Economics, University of Missouri, 1906—.

WILLIAM MORTON DEY, B. A., M. A., Ph. D.,

Assistant Professor of Romance Languages.

B. A., and M. A., University of Virginia, 1902; Student in Paris, May-September, 1903; A. M., Harvard University, 1904; Austin Teaching Fellow in Romance Languages, 1905-06, Ph. D., 1906; studying and traveling in Spain, summer, 1906; Assistant Professor of Romance Languages, University of Missouri, 1906—.

MURRAY SHIPLEY WILDMAN, A. B., Ph. D.,

Assistant Professor (in charge) of Economics.

A. B., Earlham College, 1893; Teacher of History and Economics, Spiceland Academy and Normal School, 1893-5; Cashier of the Henry County Bank, Spiceland, Indiana, 1895-7; Vice-President, 1897-1901; Superintendent of Spiceland Academy and Normal School, 1898-1901; Graduate Student, University of Chicago, 1901-04, Fellow in Political Economy, 1902-04, Ph. D., 1904; Professor of History and Economics, Central College, 1904-05; Instructor in Economics, University of Missouri, 1905-06; Assistant Professor (in charge) of Economics, 1906—.

ARTHUR LORD WESTCOTT, B. M. E., M. E.,

Assistant Professor of Experimental Engineering.

B. M. E., Purdue University, 1892, M. E., 1906, Instructor in Shop Work, 1892-93; Instructor in Mechanical Engineering, Michigan Agricultural College, 1893-99; Professor of Mechanical Engineering, University of Montana, 1899-1903; Mechanical Engineer, with The Browning Engineering Company, Cleveland, Ohio, 1903-05; Assistant Professor of Mechanical Engineering, Case School of Applied Science, 1905-06; Steam Engineering with Amalgamated Copper Co., Anaconda, Mont., summer, 1907; Assistant Professor of Experimental Engineering, University of Missouri, 1906—.

‡ROSCOE HART SHAW, B. S.,

Assistant Professor of Dairy Husbandry.

B. S., New Hampshire College, 1897; Diploma, Eidgenn, Polytechnikum of Switerland, Zurich, 1897-9; Assistant Chemist New Hampshire Experiment Station, 1899-1900; Assistant and Instructor in Chemistry, University of Wisconsin, 1900-02; Summer, 1902, Bureau of Soils, U. S. Department of Agriculture; October, 1902, to January, 1906, Assistant Chemist, Kansas Experiment Station; January, 1906, to July, 1906, Assistant Professor of Agricultural Chemistry, University of Nebraska; Assistant Professor of Dairy Husbandry, University of Missouri, 1906—.

LELAND EMERSON BRISTOL, A. B., LL. B.,

Assistant Professor of Law.

A. B., Harvard University, 1898, LL. B., 1901; Practiced Law, 1903-04; Post-Graduate Law Student, Harvard University, 1904-05; Assistant Professor of Law, University of Missouri, 1906-08.

LEWIS DARWIN AMES, A. B., A. M., Ph. D.,

Assistant Professor of Mathematics.

B. L., University of Missouri, 1899; A. B., Harvard University, 1901, A. M., 1902, Ph. D., 1904; Instructor in Mathematics, Chillicothe Normal School, 1890-1900; Instructor in Mathematics, Harvard University, 1901-2; Instructor in Mathematics, University of Missouri, 1903-6; Assistant Professor of Mathematics, 1906—.

HENRY LAMAR CROSBY, A. B., A. M., Ph. D.,

Assistant Professor of Greek.

B. A., University of Texas, 1901, M. A., 1902, Fellow in Greek and Latin, 1901-02; A. M., Harvard University, 1903, Ph. D., 1905; Instructor in Greek, University of Pennsylvania, 1905-06; Assistant Professor of Greek, University of Missouri, 1906—.

‡In the service of the U. S. Government.

ALAN ESTIS FLOWERS, M. E.,

Assistant Professor of Electrical Engineering.

University Scholar, Cornell University, 1898-1900; M. E., Cornell University, 1902; Construction Department, Westinghouse Electric and Manufacturing Company, 1902-03; Engineering Apprentice, Westinghouse Electric and Manufacturing Company, 1904; Instructor in Electrical Engineering, University of Missouri, 1904-6; Testing Floor, Westinghouse Electric & Mfg. Co., vacation, 1905; Engineering Office, Bullock Electric Mfg. Co., vacation, 1907; Assistant Professor of Electrical Engineering, 1906—.

PERCY BORDWELL, B. L., LL. B.,

Assistant Professor of Law.

B. L., University of California, 1898; Student in Public Law, Columbia University, 1898-1901, Schiff Fellow in International Law, 1900-01, Student in Law School, 1901-04, LL. B., 1904; Practiced Law, 1904-06; Assistant Professor of Law, University of Missouri, 1906-08.

WILLIAM ALVAN MILLER, B. S.,

Assistant Professor of Railway Engineering.

B. S., in Civil Engineering, University of Missouri, 1897; Rodman, U. S. Deep Waterway Survey, 1897-98, Chief of Party, 1898-99; Transitman, B. & O. S. W. R. R., 1899-1901; Resident Engineer, Choc., Okla., & Gulf R. R., 1901-02; Assistant in Engineering Corps, B. & O. S. W. R. R., 1902-03; Assistant Division Engineer, B. & O. R. R., 1903-06; Assistant Professor of Railway Engineering, University of Missouri, 1906—.

*ROBERT CLAIR THOMPSON, B. S., M. S.,

Assistant Professor of Chemistry.

Graduate of Clarion (Pa.) State Normal School, 1896; B. S., Westminster College, Pa., 1901; Student, University of Missouri, 1901; Teacher of Chemistry and Biology, High School, Mexico, Mo., 1902; M. S., School of Mines, 1904; Instructor in Chemistry, University of Missouri (School of Mines), 1902-06; Assistant Professor of Chemistry (School of Mines), 1906—.

ARTHUR HENRY ROLPH FAIRCHILD, A. B., A. M., Ph. D.,

Assistant Professor of English.

A. B., University of Toronto, 1900; Teaching Fellow, University of Wisconsin, 1900-1; Scholar, Yale University, 1901-3; A. M., Yale University, 1903; Fellow, Yale University, 1903-4, Ph. D., 1904; Instructor in English, University of Missouri, 1904-06, Assistant Professor of English, 1906—.

MILLARD LEWIS LIPSCOMB, A. M.,

Editor of the University Catalogue, and Chairman of the Committee on Student Affairs.

A. M., Bethany College (West Va.); Instructor in William and Mary College, 1874-5; Professor of Physical Science, South Kentucky College, 1879-89; Student, Chicago University, Summer 1902; Professor of Physics, University of Missouri, 1889-1905. Editor of the University Catalogue, and Chairman of Committee on Student Affairs, 1903—.

MARY BIDWELL BREED, A. B., A. M., Ph. D.,

Adviser of Women, and Head of Read Hall.

A. B., Bryn Mawr College, 1894, A. M., 1895, Ph. D., 1901, Assistant in the Chemical Laboratory, and Graduate Scholar, 1894-5; Student, University of Heidelberg, 1895-96 (Bryn Mawr European Fellow); Head of the Scientific Department, Pennsylvania College for Women, 1897-99; Fellow by Courtesy, Bryn Mawr College, 1899-1901; Dean of Women, Indiana University, 1901-06; Adviser of Women, and Head of Read Hall, University of Missouri, 1906—.

HENRY ORMAL SEVERANCE, B. Pd., A. B., A. M.,

Librarian.

B. Pd., Michigan Normal College, 1894; A. B., University of Michigan, 1897, A. M., 1899, Assistant, General Library, 1899-1906; Librarian, University of Missouri, 1907—.

THOMAS JAMES RILEY, A. B., A. M., Ph. D.,

Assistant Professor of Sociology.

A. B., Baker University, 1900, A. M., 1903; Ph. D., University of Chicago, 1904, Fellow in Sociology, 1900-01, 1902-04; Professor and Acting Head of the Department of Mathematics, Baker University, 1901-02; Professor and Head of the Department of Mathematics, Western State Normal School, Kalamazoo, Michigan, 1904-06; Instructor in Sociology, University of Missouri, 1906-07; Director, St. Louis School of Philanthropy, 1906—; Assistant Professor of Sociology, University of Missouri, 1907—.

ELEXIOUS THOMPSON BELL, B. S., M. D.,

Assistant Professor in Anatomy.

B. S., University of Missouri, 1901, M. D., 1903; Fellow in Anatomy, 1901-02; Assistant in Anatomy, 1902-03; Instructor in Anatomy, 1903-07 (in charge, 1903-04); Student, University of Bonn, 1905-06; Assistant Professor, University of Missouri, 1907—.

HERBERT MEREDITH REESE, A. B., Ph. D.,

Assistant Professor Physics.

A. B., Johns Hopkins University, 1897; Fellow in Physics, Johns Hopkins University, 1899-1900; Ph. D., 1900; Fellow in Astronomy, Lick Observatory, University of California, 1900-1; Assistant, Lick Observatory, 1901-3; Assistant, Yerkes Observatory, University of Chicago, 1903-4; Instructor in Physics, University of Missouri, 1904-07; Assistant Professor of Physics, 1907—.

HERBERT SHAW PHILBRICK, A. B., S. B.,

Assistant Professor of Mechanical Engineering, in Charge of Shops.

A. B., Colby College, 1897; S. B., Massachusetts Institute of Technology, 1906; Sub-master High School, Calais, Maine, 1897-1900; Principal High School, Calais, Maine, 1900-02; Draftsman, Waterville Iron Works, Summer of 1905; Draftsman Keys Fibre Co., Summer of 1906; Engineer with A. O. Lombard Company, 1906-07; Assistant Professor of Mechanical Engineering, in charge of Shops, University of Missouri, 1907—.

†WILHELMUS DAVID ALLEN WESTFALL, A. B., Ph. D.,

Assistant Professor of Mathematics.

A. B., Yale College, 1901; Douglas Fellow and Graduate Student in Yale University, 1901-2; Acting Instructor in Mathematics in Yale College, 1902-03; Student at Goettingen, Germany, 1903-05, and 1907-08; Ph. D., Goettingen, 1905; Instructor in Mathematics, University of Missouri, 1905-07; Assistant Professor of Mathematics, 1907—.

EDWIN ALLAN FESSENDEN, B. S. in M. E., M. E.,

Assistant Professor (in charge) of Mechanical Engineering.

B. S. in M. E., University of Missouri, 1904, M. E., 1906; American Brake Company (Westinghouse), St. Louis, Missouri, Summers 1901-02; Assistant Mechanical Engineer, National Candy Company, St. Louis, 1903; Chief Draughtsman, Aetna Foundry and Machine Company, Springfield, Ill., 1904-05; Draughtsman, Babcock and Wilcox Company, Stirling Department, Barberton, Ohio, Summer 1907; Instructor in Mechanical Engineering, University of Missouri, 1905-07; Assistant Professor (in charge) of Mechanical Engineering, 1907—.

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†On leave of absence, session, 1907-08.

GEORGE MATTHEW REED, A. B., A. M., Ph. D.,

Assistant Professor of Botany.

A. B., Geneva College, 1900; A. M., University of Wisconsin, 1904, Ph. D., 1907; Professor of Natural Science, Amity College, 1900-03; Assistant in Botany, University of Wisconsin, 1904-7; Instructor in Botany, 1907; Assistant Professor of Botany, University of Missouri, 1907—.

EDWIN HENRY SCHORER, B. S., M. D.,

Assistant Professor of Parasitology and Hygiene.

B. S., University of Wisconsin, 1902; M. D., Johns Hopkins University, 1906; Assistant Rockefeller Institute for Medical Research, New York City, 1903; Pathologist and Bacteriologist, Thomas Wilson Sanitarium, Mt. Wilson, Maryland, 1904-06; Assistant Rockefeller Institute for Medical Research, New York City, 1906-07; Instructor in Pathology and Bacteriology, University of Missouri, 1907-08; Assistant Professor of Parasitology and Hygiene, 1908—.

JOSEPH DOLIVER ELLIFF, A. B., A. M.,

Inspector of Schools, and Assistant Professor of School Administration.

Graduate, Warrensburg State Normal School, 1893; A. B., University of Missouri, 1903, A. M., 1907; Principal Central School, Carthage, Missouri, 1893-4; Principal, Joplin, Missouri, High School, 1894-7; Superintendent Joplin Public Schools, 1897-1902; Acting Superintendent of St. Joseph, Missouri, Public Schools, 1903-04; Student, University of Chicago, Summer Quarters, 1905-06; Instructor in School Administration, and Inspector of Accredited Schools, University of Missouri, 1904-08; Inspector of Schools, and Assistant Professor of School Administration, 1908—.

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‡*Assistant Professor of Newspaper Administration.*

INSTRUCTORS.

*PAUL JULIUS WILKINS, B. S.,

Instructor in Modern Languages.

B. S., Michigan Agricultural and Mechanical College, 1896; Instructor in Modern Languages, University of Missouri (School of Mines), 1887—.

*JOHN BENNETT SCOTT,

Instructor in English.

Instructor in English, University of Missouri (School of Mines), 1897—.

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†To be appointed before September 1, 1908.

ALBERT GRANBERRY REED, A. B., A. M., Ph. D.,
Instructor in English.

A. B., Vanderbilt University, 1895; A. M., Yale University, 1897; Scholar in English, Columbia University, 1897-8; Fellow in English, University of Chicago, 1904; Austin Scholar, Harvard University, 1906-7; Ph. D., Harvard University, 1907; Acting Professor of English and Philosophy, Baker University, 1898-9; Professor of English and History, Austin College, 1899-1900; Professor of English Language and Literature, Hendrix College, 1900-1; Instructor in English, University of Texas, 1901-4; Instructor in English, University of Missouri, 1904—.

LOUIS INGOLD, A. B., A. M., Ph. D.,
Instructor in Mathematics.

Student Assistant in Mathematics, University of Missouri, 1900-1; A. B., 1901; Teaching Fellow in Mathematics, 1901-2; A. M., 1902; Ph. D., University of Chicago, 1907; Fellow, University of Chicago, 1905-07; Acting Assistant Professor of Mathematics, University of Missouri, 1902-3; Assistant in Mathematics, 1903-05; Instructor in Mathematics, 1905—.

‡HOMER LEROY SHANTZ, B. Sc., Ph. D.,
Instructor in Botany.

B. Sc., Colorado College, 1901; Instructor in Biology, 1901-2; Instructor in charge of Department of Biology, 1902-3; Fellow in Botany, University of Nebraska, 1903-5; Instructor in Botany, University of Nebraska School of Agriculture, 1903-5; Ph. D., University of Nebraska, 1905; Special Field Agent, Alkali and Drought Resistant Plant Breeding Investigations, Bureau of Plant Industry, U. S. Department of Agriculture, summer of 1907, Collaborator, 1907—; Acting Instructor in Botany, University of Missouri, 1905-6; Instructor in Botany, 1906-08.

CAROLINE McGILL, A. B., A. M.,
Instructor in Anatomy.

A. B., University of Missouri, 1904, A. M., 1905; Fellow in Zoology, 1904-5; Acting Instructor in Anatomy, 1905-06; Instructor in Anatomy, 1906—.

CARL CONRAD ECKHARDT, Ph. B., M. A., Ph. D.,
Instructor in History.

Ph. B., Ohio State University, 1902; Assistant in History, University of Michigan, 1902-03; M. A., University of Michigan, 1904; Student, Cornell University, Summer, 1905; Scholar in History, 1906-07, Ph. D., 1908; Assistant in History, University of Missouri, 1903-05; Instructor in History, 1905—.

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‡Resigned.

HOWARD VERNON CANTER, A. B., Ph. D.,

Instructor in Latin.

A. B., Washington and Lee University, 1896; Associate and Acting Principal, Lexington (Virginia) Public Schools, and High School; Instructor in Latin, French and German, 1895-8; Fellow in Latin, Johns Hopkins University, 1900, Ph. D., 1904, Fellow by Courtesy, 1904-5; Professor of Latin and Greek, Notre Dame of Maryland, 1902-4; Classical Master, University School, Baltimore, Maryland, 1904-5; Instructor in Latin, University of Missouri, 1905—.

MARION SCHIRLEY BOWEN,

Instructor in Shopwork.

Graduate, Miller School (Virginia), 1902; Assistant Instructor in Shopwork, Miller School, 1901-2; Machinist, Providence Engineering Works, 1902; Machinist and Draughtsman, Brown & Sharpe, 1902-4; Assistant in Shopwork, University of Missouri, 1904-05; Instructor in Shopwork, 1905—.

WILLIAM JAMES MONILAW, M. D.,

Instructor in Athletics.

M. D., Drake University, 1903; Student, Institute and Training School of Y. M. C. A., Summer Session, Lake Geneva, Wisconsin, 1898-1900; Director, Physical Culture and Athletics, Drake University, 1897-1906; Demonstrator, Histology and Bacteriology, 1903-04; Professor of Massage, and Instructor in Baseball and Athletics, Institute and Training School of Y. M. C. A., Summer Session, Lake Geneva, Wisconsin, 1905—; Instructor in Athletics, University of Missouri, 1906—.

FLORENCE DELIA ALDEN, A. B.,

Instructor (in charge) in Athletics in Women's Gymnasium.

A. B., Smith College, 1904; Graduate, Boston Normal School of Gymnastics, 1906; Student, Gilbert's Summer School, 1906; Instructor (in charge) in Athletics in Women's Gymnasium University of Missouri, 1906—.

JAMES WILLIAM PUTNAM, Ph. B., A. M.,

Instructor in Economics.

Ph. B., Illinois College, 1894; Graduate Student, University of Chicago, 1895, and Summer Quarters, 1900, 1901, 1903; Instructor in History and Political Science, Illinois College, 1894-98, Assistant Professor (in charge) of History and Economics, 1898-1902; Fellow, Cornell University, 1902-03, A. M., 1903; Assistant and Graduate Student, University of Wisconsin, 1903-04; Instructor in Economics and Administration, Northwestern University, 1904-06; Instructor in Political Science and Economics, University of Missouri, 1906-07; Instructor in Economics, 1907—.

†SAMUEL DAVID GROMER, S. B., Pe. B., A. M.,

Instructor in American History.

S. B., Pe. B., University of Missouri, 1889; Superintendent of Schools, Ipswich, South Dakota, 1889-91; State Institute Conductor, South Dakota, 1890-91; Instructor in History, Political Science and Economics, Stanberry Normal, 1891-96, 1897-1904; Commissioner of Schools, Gentry County, 1893-97; Graduate Student, University of Chicago, 1896; Student, Chautauqua College of Liberal Arts, 1897-98; A. M., Harvard University, 1905; Studied at Columbia University, completed residence requirements for Ph. D., 1905-06; Instructor in History, College of the City of New York, 1906; Treasurer of Porto Rico, 1907-08; Instructor in History and Economics, University of Missouri, 1906-07; Instructor in American History, 1907—.

MARLOW ALEXANDER SHAW, A. B., Ph. D.,

Instructor in English.

A. B., University of Toronto, 1896, Fellow, 1897-8; Fellow, University of Wisconsin, 1900-01; Scholar, Harvard University, 1901-03, Ph. D., 1903; Principal, Elementary Schools, Waubaushene, Ontario, 1889-91; Assistant in English, University of Missouri, 1905-06, Instructor in English, 1906-08.

HOWARD DOTY CARPENTER, A. B., A. M.,

Instructor in Electrical Engineering.

A. B., Princeton University, 1895, A. M., 1896, Fellow in Experimental Science, 1895-96; Professor of Physics and Chemistry, Park College, 1897-98; Student, Vanderbilt University, and University of Chicago, 1899-1900; Professor of Physics and Chemistry, Central University of Kentucky, 1900-01; Engineering Apprentice and Testing Engineer, Stanley Electric Manufacturing Company, 1902-5; Instructor in Electrical Engineering, University of Maine, 1905-06; Instructor in Electrical Engineering, University of Missouri, 1906—.

*EDWARD STAPLES SMITH, M. E.,

Instructor in Drawing.

Graduate, Miller School; M. E., Brown University, 1904; Draftsman, Bucyrus Company, and Allis Chalmers Company (Milwaukee, Wis.); Instructor in Drawing, University of Missouri (School of Mines), 1906—.

HARRY SELWYN WAYMAN, B. S.,

Instructor in Dairy Husbandry.

B. S. in Agriculture, University of Missouri, 1906, Instructor in Dairy Husbandry, 1906—.

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†On leave of absence, 1907-08.

AUSTIN HUBBARD WELCH, B. S., M. E.,

Instructor in Mechanical Drawing.

B. S., in M. E. University of Missouri, 1904, M. E., 1907; Special Apprentice, C. & N. W. Ry., Chicago Shops, 1904-05; Draughtsman, Westinghouse E. & M. Company, Summer of 1907; Assistant in Mechanical Drawing, University of Missouri, 1905-06, Instructor in Mechanical Drawing, 1906—.

JAMES ROY WHARTON, B. S. in M. E., M. E.,

Instructor in Mechanical Engineering.

B. S. in M. E., University of Missouri, 1905; M. E., 1906; Engineer, Nifong Ice and Cold Storage Co., Columbia, Mo., 1902-03; Engineer, Suburban R. R. Co., St. Louis, Mo., Summer, 1903; Testing Engineer, Louisiana Purchase Exposition, St. Louis, Summer, 1904; Assistant in Mechanical Engineering, University of Missouri, 1905-07; Instructor in Mechanical Engineering, University of Missouri, 1907—.

EDWIN A. TROWBRIDGE, B. S. A.,

Instructor in Animal Husbandry.

B. S. A., University of Wisconsin, 1906; Assistant in Animal Husbandry, University of Missouri, 1906-07; Instructor in Animal Husbandry, 1907—.

WILLIAM HENRY SCHULTZ, Ph. B., Ph. D.,

Instructor in Physiology.

Ph. B., Baldwin University, 1899; Ph. D., Johns Hopkins University, 1907, Fellow in Physiology, 1905-07; Graduate Student, Western Reserve University, 1899; University of Chicago, Summers, 1901 and 1905; Woods Hole, Summer, 1902; Johns Hopkins University, 1903-04, 1905-07; Professor of Science, Shorter College, 1899-1903; Professor of Biology, Southwestern Baptist University, 1904-05; Instructor in Physiology, University of Missouri, 1907—.

ERNEST VANCOURT VAUGHN, B. L., A. M.,

Instructor in History.

B. L., University of Missouri, 1900, A. M., 1904, Teaching Fellow in English, 1900-01; Instructor in History, Columbia High School, 1901-03; Superintendent of Schools, Milan, Missouri, 1904-05; Instructor in History, Kirksville Normal, Summer Quarter, 1905; Assistant in History, University of Missouri, 1905-07; Instructor in History, 1907—.

HELENE M. EVERS, A. B., A. M., Ph. D.,

Instructor in Romance Languages.

A. B., Washington University, 1899; A. M., University of Missouri, 1902, Fellow in Romance Languages, 1902-03; Fellow in Romance Languages, Bryn Mawr College, 1903-05, Ph. D., 1905; Acting Instructor in Romance Languages, University of Missouri, 1905-06; Teacher of French, Miss Gleim's School, Pittsburg, 1906-07; Instructor in Romance Languages, University of Missouri, 1907-08.

THEODORE ELY HAMILTON, A. B., A. M., Ph. D.,

Instructor in Romance Languages.

A. B., Harvard University, 1899; A. M., University of Missouri, 1900, Ph. D., 1908; Teaching Felllow in Romance Languages, University of Missouri, 1899-1900; Instructor in Romance Languages, University of Illinois, 1903-06, Graduate Student, 1905-06; in Europe, Summer of 1904; Student at Harvard University, Summer of 1905; Fellow in Romance Languages, University of Missouri, 1906-07, Instructor in Romance Languages, 1907-08.

JAMES ANDREW GIBSON, B. A., M. A.,

Instructor in Analytical Chemistry.

A. B., Harvard, 1902, M. A., 1904, Assistant in Chemistry, 1902-04; Assistant in Chemistry, Harvard University and Radcliffe College, 1904-05; Instructor in General and Analytical Chemistry, Case School of Applied Science, 1905-07; Instructor in Analytical Chemistry, University of Missouri, 1907—.

FRANCIS WILLIAM COKER, A. B.,

Instructor in Political Science.

A. B., University of North Carolina, 1899; Teacher, Webb School, Tennessee, 1899-1901; Student, Harvard University, 1901-02, A. B., 1902; Teacher, Miller School, Virginia, 1902-03; Student, Columbia University, 1904-07, University Fellow in Political Philosophy, 1905-06; Instructor in Political Science, University of Missouri, 1907—.

ALPHA MILLS EBRIGHT, A. B., A. M.,

Instructor in Athletics, and Graduate Manager of Athletics.

A. B., Baker University, 1905; A. M., University of Missouri, 1907; Base Ball Coach, University of Missouri, 1905-07; Instructor in Athletics, and Graduate Manager of Athletics, University of Missouri, 1907—.

EARL QUERBACH, B. S. in C. E.,

Instructor in Bridge Engineering.

B. S. in C. E., University of Missouri, 1906; Draftsman, C., B. & Q. R. R., Summer, 1905; Draftsman, American Bridge Company, July 1, 1906, to September 1, 1907; Instructor, University of Missouri, 1907—.

†MARY SHORE WALKER, A. B., A. M.,

Instructor in Mathematics.

A. B., University of Missouri, 1903, A. M., 1904; Fellow in Mathematics, Yale University, 1907-08; Assistant in Mathematics, University of Missouri, 1904-07; Instructor in Mathematics, 1907—.

ROBERT LEE RAMSAY, A. B., Ph. D.,

Instructor in English.

A. B., Fredericksburg College, 1899; Assistant in English, Fredericksburg College, 1898-1900; Student Assistant in English, Johns Hopkins University, 1903-04; Fellow, 1904-05; Ph. D., 1905; Assistant in English, Johns Hopkins University, 1905-07; Instructor in English, University of Missouri, 1907-08.

ROBERT EDWARD LOVING, A. B., A. M., Ph. D.,

Instructor in Physics.

A. B., Richmond College, 1896, A. M., 1898; Fellow in Physics, Johns Hopkins University, 1901-02; Lecture Assistant in Physics, 1904-05; Ph. D., 1905; Professor of Physics, Blackburn College, 1905-06; Professor of Physics, Cornell College, 1906-07; Instructor in Physics, University of Missouri, 1907—.

MALCOLM CLYDE WATSON, A. B., B. S.,

Instructor in Manual Training.

Teacher, High School, Moberly, Missouri, 1902-04; A. B., *B. S.*, University of Missouri, 1905; Teacher, High School, Fort Smith, Arkansas, 1905-07; Instructor, Cherokee Summer Normal, Tahlequah, Indian Territory, 1906; Instructor in Manual Training, University of Missouri, 1907-08.

‡CLARENCE PERKINS, A. B., A. M.,

Instructor in History.

A. B., Syracuse University, 1901; Instructor in History, Bloomfield (N. J.) High School, 1901-03; Graduate Student of History, Harvard University, 1903-04; A. M., 1904; Thayer Scholar in History, 1904-05; Edward Austin Fellow in History, 1905-06; Non-Resident Graduate Student and Ozias Goodwin Memorial Fellow in History, studying in London, Oxford, and Paris, 1906-07; Instructor in History, University of Missouri, 1907-08.

[redacted] in American History [redacted].

†On leave of absence, session, 1907-08.

ROBERT BANKS GIBSON, Ph. B., Ph. D.,

Instructor in Physiological Chemistry.

Ph. B., Yale University, 1902; Ph. D., 1906; Sheffield Scholar in the Graduate School of Yale University, 1902-03; Research Assistant in the Sheffield Scientific School of Yale University, 1903-4; Bacteriologist in the Research Laboratory of the Department of Health of the City of New York, 1904-07; Instructor in Physiological Chemistry, University of Missouri, 1907—.

CHARLES ALBERT WILLSON, B. S.,

Instructor in Animal Husbandry.

B. S., Michigan Agricultural College, 1906; Assistant in the Michigan Experiment Station, 1906; Assistant in Animal Husbandry, Kansas Agriculture College, 1906-07; Instructor in Animal Husbandry, University of Missouri, 1907—.

LOUISE STANLEY, B. S., M. A.,

Instructor in Home Economics.

B. S., Peabody College, 1903; Assistant, Peabody College Model School, 1903-04; Graduate Student, University of Chicago, 1905-06; B. of Ed. in Home Economics, 1906; Graduate Student, Columbia University, 1906-07, M. A., 1907; Instructor in Home Economics, University of Missouri, 1907-08.

OTTO DUNKEL, A. B., A. M., Ph. D.,

Instructor in Mathematics.

M. E., University of Virginia, 1896; Assistant in Leander McCormick Observatory, University of Virginia, 1896-97; B. A., M. A., University of Virginia, 1898; A. M., Harvard University, 1899, Ph. D., 1902; Instructor in Mathematics, Wesleyan University, Middletown, Conn., 1902-04; Student, University of Goettingen, Germany, 1904-05; Student, University of Paris, 1905-06; Instructor in Mathematics, University of Minnesota, 1906-07; Instructor in Mathematics, University of Missouri, 1907—.

LOUIS LAZARUS SILVERMAN, A. B., A. M.,

Instructor in Mathematics.

A. B., Harvard, 1905, A. M., 1907; Instructor in Mathematics, University of Missouri, 1907-08.

THOMAS WILLIAM BURCKHALTER, B. P. E., B. S.,

Instructor in Physical Education.

Diploma, International Training School (Springfield, Mass.), 1905; B. P. E., 1907; B. S., Columbia University, 1907; Instructor in Physical Training, Montclair (N. J.) Military Academy, 1905-06; Assistant in Columbia University Gymnasium, 1906-7; Physical Director, Williamsbridge Branch Y. M. C. A., New York City, 1906-07; Superintendent of Public Playgrounds, Washington, D. C., Summer of 1904; Superintendent of Public Playgrounds, Lexington, Ky., Summer of 1905; Instructor in Physical Education, University of Missouri, 1907—.

FRANK FLETCHER STEPHENS, Ph. B., Ph. M., Ph. D.,

Instructor in American History.

Ph. B., University of Chicago, 1904, Ph. M., 1905; Harrison Fellow in American History, University of Pennsylvania, 1905-07, Ph. D., 1907; Instructor (in charge) of History, University of Maine, Summer School, 1907; Instructor in American History, University of Missouri, 1907-08.

J. F. McCLENDON, B. S., M. S., Ph. D.,

Instructor in Zoology.

Student Assistant in Zoology, University of Texas, 1900-03, B. S., 1903, Fellow in Zoology, 1903-04, M. S., 1904; Harrison Fellow in Zoology, University of Pennsylvania, 1904-06, Ph. D., 1906; Investigator at Woods Hole, Mass., Summers of 1904-06; Professor of Physics and Biology, Randolph Macon College, 1906-07; Naturalist of the Marine Biological Association of San Diego, Cal., 1907; Instructor in Zoology, University of Missouri, 1907—.

HAROLD DeMOTT HUGHES, B. S.,

Instructor in Agronomy.

B. S., University of Illinois, 1907; Instructor in Agronomy, University of Missouri, 1907-08.

LEE SELDON BACKUS, D. V. M.,

Instructor in Veterinary Science.

D. V. M., New York State Veterinary College, (Cornell) 1906; Student Assistant in Veterinary Physiology, 1906-07; Assistant in Veterinary Physiology, 1906-07; Instructor in Veterinary Science, University of Missouri, 1907—.

*THEODORE HERMAN TRAMS, B. S.,

Instructor in Civil Engineering.

B. S., in Civil Engineering, University of Illinois, 1907; Maintenance Department, I. C. R. R., 1898-1904; Engineer on Maintenance, D. L. and W. R. R., Buffalo, N. Y., 1906; Reinforced Concrete Inspector, D. L. and W. R. R., Scranton, Pa., 1907; Instructor in Civil Engineering, University of Missouri (School of Mines), 1907—.

WILLIAM GODFREY BEK, A. B., A. M., Ph. D.,

Instructor in Germanic Languages.

A. B., University of Missouri, 1903, A. M., 1905; Instructor in German, University of the South, Summer Session, 1904; University Scholar in Germanic Languages, University of Pennsylvania, 1903-04; Harrison Fellow in Germanic Languages and Literature, University of Pennsylvania, 1905-07; Ph. D., 1907; Instructor in Germanic Languages, University of Missouri, 1907-08.

WILLIAM CLARENCE DAVIDSON, B. S. in C. E.,

Instructor in Mechanical Drawing.

B. S. in C. E., University of Missouri, 1907; Instructor in Mechanical Drawing, University of Missouri, 1907-08.

EDWARD ALLEN THURBER, A. B., A. M.,

Instructor in English.

A. B., Yale, 1891; Instructor in French and German, Westminster School, Dobbs Ferry, N. Y., 1891-2; Student, Sorbonne, Paris, 1892-3; Student and Scholar (in English), Harvard, 1893-6, A. M., 1894; Instructor in English, University of Nebraska, 1896-8; Instructor in English, University of Wisconsin, 1898-1901; Instructor in English, Yale, 1901-03; With Fisk & Robinson, Bankers, New York City, 1903-07; Instructor in English, University of Missouri, 1907-08.

*ANDREW JACKSON SELTZER, B. S. in Chem. & Met.,

Instructor in Chemistry.

B. S. in Chem. & Met., University of Missouri (School of Mines), 1907; Instructor in Chemistry, University of Missouri (School of Mines), 1907—.

GILBERT CAMPBELL SCOGGIN, A. B., A. M., Ph. D.,

Instructor in Sanskrit and Comparative Philology.

A. B., A. M., Vanderbilt University, 1902; Ph. D., Harvard University, 1906; Instructor in University School, Nashville, Tennessee, 1902-04; Shattuck Scholar, Harvard University, 1904-06; Master in Greek, Hotchkiss School, Lakeville, Connecticut, 1906-07; Student in Munich and Rome, 1907-08; Instructor in Sanskrit and Comparative Philology, University of Missouri, 1908—.

*GEORGE WATSON COREY, B. S., E. M.,

Instructor in Mineralogy.

B. S., Michigan College of Mines, 1893, E. M., 1896, Instructor, Department of Geology, 1892-96; Instructor, Department of Geology, University of Wisconsin, 1896-97; Geologist, Pittsburg and Montana Copper Company, 1897; Instructor in Mineralogy, University of Missouri (School of Mines), 1907—.

HOMER HOWELLS HARBOUR, A. B.,

Instructor in English.

A. B., Harvard University, 1906; Professor in English, Lebanon Valley College, Pennsylvania, 1906-07; Instructor in English, University of Missouri, 1908—.

ROYAL LOREN MELENDY, A. B.,

Instructor in Physical Education.

A. B., University of Michigan, 1903; Ohio Wesleyan University, 1895-96; Graduate Student Hartford Theological Seminary, 1903-04; Fellow of University of Michigan in Sociology in Chicago Commons, 1898-99; General Secretary of Newark Social Settlement Association, 1904-06; Supervisor of Newark Public School Recreation Centres, 1904-06; Assistant Professor of Sociology, University of Cincinnati, 1906-08; Instructor in Physical Education, University of Missouri, 1908—.

FREDERICK VALENTINE EMERSON, A. B., Ph. D.,

Instructor in Geology.

A. B., Colgate University, 1898; Ph. D., University of Chicago, 1907; Assistant in Geology, Cornell University, 1903-04; Scholar, Harvard University, 1904-05; Fellow, University of Chicago, 1905-06; Assistant in Geology, University of Missouri, 1906-08; Instructor in Geology, University of Missouri, 1908—.

FRANK ULYSSES GRANT AGRELIUS, A. B.,

Instructor in Botany.

A. B., University of Kansas, 1907; Graduate, Kansas State Normal School, in 1898 and in 1907; Assistant in Botanical Laboratory, Kansas State Normal, Summer School, 1899-1901; Fellow in Botany, University of Kansas, 1907; Instructor in Botany, University of Missouri, 1908—.

ASSISTANTS.

ERNEST HOWARD FAVOR, A. B.,

Assistant Horticulturist to the Experiment Station.

A. B., University of Missouri, 1902; Assistant in Botany, 1902-03; Assistant Horticulturist to the Experiment Station, 1903—.

ERNEST EARL MORLAN, A. B., A. M.,

Assistant in Chemistry.

Student Assistant in Physics, University of Missouri, Summer of 1900; A. B., University of Missouri, 1902; Graduate Student, Columbia University, 1902-3; A. M., 1903; Instructor in Chemistry and Physics, Kansas City (Kansas) High School, 1903-04; Assistant in Chemistry, University of Missouri, 1904—.

STANLEY SISSON, B. S., A. B.,

Assistant in Experimental Psychology.

B. S., in Education, University of Missouri, 1905, A. B., 1906; Assistant in Experimental Psychology, 1905—.

GEORGE WASHINGTON TANNREUTHER, A. B., A. M.,

Assistant in Zoology.

A. B., Manchester College, 1900; A. M., Antioch College, 1901; Graduate Student, University of Chicago, 1901-05, Laboratory Assistant in Zoology, 1904, Fellow in Zoology, 1904-05; Assistant in Zoology, University of Missouri, 1905—.

GRACE LEFLER, B. L. S.,

Assistant in General Library, and in charge of Catalogue.

B. L. S., University of Illinois Library School, 1903; Assistant Cataloguer, Library, University of Missouri, 1904-05; in Charge of Office, July, 1906, to December, 1906; Assistant in General Library in Charge of Catalogue, 1905—.

ELI STUART HAYNES, A. B., A. M.,

Assistant in Astronomy.

A. B., University of Missouri, 1905, A. M., 1907; Assistant in Mathematics, 1905-06; Gould Assistant in Astronomy, 1906-07; Assistant in Astronomy, 1907—.

CARTER ALEXANDER, B. S., A. B.,

Assistant in School Administration, and Principal of the Teachers College High School.

B. S., University of Missouri, 1905, A. B., 1906; Teacher in rural schools, 1899-1901; Superintendent of Schools, Shelbyville, Missouri, 1902-05; Assistant in School Administration, and Principal of Teachers College High School, University of Missouri, 1906-08.

HARLEY EARL HOWE, B. S.,

Assistant in Physics.

B. S., in Education, University of Missouri, 1906, Student Assistant in Physics, 1905-06, Assistant in Physics, University of Missouri, 1906—.

LEONARD HASEMAN, A. B., A. M.,

Assistant (in charge) in Entomology.

A. B., University of Indiana, 1905, A. M., 1907; Fellow in Embryology, Indiana University Biological Station, Summer Session, 1905; Fellow in Zoology, Summer Session, 1905; Assistant in Entomology and Zoology, University of Florida, 1905-06; Assistant in Entomology, University of Missouri, 1906-07; Assistant (in charge) in Entomology, 1907-08.

WILLIAM HENRY CHANDLER, B. S., M. S.,

Assistant in Horticulture.

B. S., University of Missouri, 1905, M. S., 1906, Fellow in Horticulture, 1905-06; Assistant in Horticulture, University of Missouri, 1906—.

‡LUCIUS FRANKLIN CHILDERS, B. S.,

Assistant in Agronomy.

B. S. in Agriculture, University of Missouri, 1906; Student Assistant in Plant Physiology, Bureau of Plant Industry, U. S. Department of Agriculture, 1904-05; Special Agent, Bureau of Plant Industry, U. S. Department of Agriculture, 1905-06; Statistician, State Board of Agriculture, 1906; Assistant in Agronomy, University of Missouri, 1906-08.

GRACE DARLING PHILLIPS, B. L. S.,

Assistant in General Library, in charge of Periodicals.

B. L. S., University of Illinois Library School, 1905; Assistant Librarian, Charleston Normal School, 1905-06; Assistant in General Library in Charge of Periodicals, University of Missouri, 1906—.

ERNEST HORN, B. S.,

Assistant in Theory and Practice of Teaching, and Principal of Teachers College Elementary School.

B. S. in Education, University of Missouri, 1907; Principal of Teachers College Elementary School, 1906-08; Assistant in Theory and Practice of Teaching, and Principal of Teachers College Elementary School, University of Missouri, 1907-08.

PETER THOMPSON HEDGES, B. S.,

Assistant in Mathematics.

B. S., University of Missouri, 1907; Principal, Williamstown High School, 1899-1902, and 1904-06; President, Gonin Academy, 1902-04; Assistant in Mathematics, University of Missouri, 1906-08.

MARGARET SINCLAIR,

Teacher in Elementary School.

Teacher in Teachers College Elementary School, University of Missouri, 1906-08.

EDITH PARKER,

Assistant in Manual Training.

Teacher in the Public Schools of Missouri, 1899-1904; Teacher of Manual Training, Summer of 1904, Kirksville Normal; William Woods College, 1904-05; University of Missouri, Summer, 1906; Assistant in Manual Training, 1906-08.

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‡Resigned.

RAY CLAUDE DONEGHUE, B. S.,

Assistant in Agronomy.

B. S., Ohio State University, 1906; Assistant in Soil Survey, University of Illinois Agricultural Experiment Station, 1906; Assistant in Agronomy, University of Missouri, 1906—.

†ALBERT EDWARD PERKINS, B. S.,

Assistant in Dairy Husbandry.

B. S., Syracuse University, 1906; Assistant Chemist Halcomb Steel Company, Syracuse, October, 1906, to January, 1907; Assistant Dairy Husbandry, University of Missouri, 1907—.

†FRANKLIN GEORGE KING, B. S. in Agr.,

Assistant in Animal Husbandry.

B. S. in Agr., University of Missouri, 1907; Assistant in Animal Husbandry, 1907—.

JOHN MARCUS EVVARD, B. S.,

Assistant to the Dean, College of Agriculture.

B. S. in Agriculture, University of Illinois, 1907; Assistant to the Dean, 1907—.

ALEX ISADORE ANDERSON, A. B.,

Assistant in Athletics.

A. B., University of Missouri, 1904; Assistant Football Coach, and Student Assistant in Gymnasium, 1904-07; Assistant in Athletics, 1907-08.

MERLE RANDALL, A. B.,

Assistant in Chemistry.

A. B., University of Missouri, 1907; Special Assistant, U. S. Dairy Research Laboratory, Columbia, Missouri, Summer, 1907; Assistant in Chemistry, University of Missouri, 1907-08.

ELIZABETH SINCLAIR, B. L.,

Assistant in General Library.

B. L., University of Missouri, 1899; Assistant in University Library, 1901-02; Principal of High School, Princeton, Missouri, 1903; Assistant in Library, University of Missouri, 1906—.

HARVEY WHITFIELD PECK, A. B., A. M.,

Assistant in English.

A. B., Oberlin College, 1905; Superintendent of Schools, Huntsburg, Ohio, 1905-06; Scholar in English, Yale, 1906-07, A. M., 1907; Assistant in English, University of Missouri, 1907-08.

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†In the employ of the U. S. Government.

ELIZABETH JADWIN, B. Pe.,

Teacher in Elementary School.

B. Pe., Warrensburg State Normal, 1905; Teacher in Teachers College Elementary School, University of Missouri, 1907-08.

FOSTER PARTRIDGE BOSWELL, A. B., M. A., Ph. D.,

Assistant in Experimental Psychology.

A. B., Hobart, 1901; M. A., Harvard, 1902, Ph. D., 1904; Assistant in Philosophy, 1903-04; Assistant in Psychology, Wisconsin University, 1904-05; Student in Germany, 1905-07; Voluntary Assistant, University of Berlin, in the Spring Semester, 1907; Assistant in Experimental Psylin, in the Spring Semester, 1907; Assistant in Experimental Psychology, University of Missouri, 1907-08.

HARRY CLAIRE PHILIPPI, B. S.,

Assistant in Physics.

Graduate, Warrensburg State Normal, 1903; B. S., in Education, University of Missouri, 1907; Principal Public Schools, La Monte, Missouri, 1903-04; Superintendent Public Schools, Hamilton, Missouri, 1904-06; Assistant in Physics, University of Missouri, 1907-08.

HARRY ANDERSON LA RUE, B. S.,

Assistant in Surveying.

B. S. in C. E., University of Missouri, 1907; Assistant in Surveying, 1907-08.

BERTA JULIA BOND, A. B., B. L. S.,

Cataloguer General Library, and in charge of the Law Library Catalogue.

A. B., University of Illinois, 1904; B. L. S., University of Illlinois, Library School, 1905; Assistant in charge of Loan Desk, Library, University of Illinois, January, 1906, to June, 1907; Cataloguer General Library, University of Missouri, 1907—.

ANNA GIFFITH,

Teacher in Elementary School.

Teacher in Teachers College Elementary School, University of Missouri, 1907-08.

CHARLES WILLIAM RINE, B. S. A.,

Assistant in Animal Husbandry.

B. S. A., University of Nebraska, 1907; Assistant in Animal Husbandry, University of Missouri, 1907—.

ALICE MILROY PAINE, B. S. in Ed.,

Assistant in Mathematics.

B. S. in Education, University of Missouri, 1907; Assistant in Mathematics, 1907—.

SAMUEL M. JORDAN, B. S.,

Assistant in Extension Work in Agriculture.

B. S., Stanberry Normal, Teacher, 1890-1900; Assistant in Extension Work in Agriculture, 1907—.

EDGAR NEWTON LARUE, D. V. S.,

Assistant in Veterinary Science.

D. V. S., Kansas City Veterinary College, 1907; Student Assistant in Microscopy and Histology, 1906-07; Assistant in Veterinary Science, University of Missouri, 1907—.

MENDEL PENCO WEINBACH, A. B., B. S. in E. E., A. M.,

Assistant in Electrical Engineering.

A. B., University of Missouri, 1905, B. S. in E. E., 1907, A. M., 1907; Student, Lycee Unirea Roumania, Europe; Teacher in the Public Schools, Roumania, Europe, 1899-1901; Assistant in Electrical Engineering University of Missouri, 1907-08.

MARION WHEELER HARTWELL,

Assistant in Women's Gymnasium.

Graduate, Boston Normal School of Gymnastics, 1907; Assistant in Women's Gymnasium, University of Missouri, 1907-1908.

NORMAN HENDRICKSON, A. B.,

Assistant in Agricultural Chemistry.

A. B., University of Wisconsin, 1905; Instructor in Science, Marinette, Wisconsin, H. S., 1905-07; Assistant in Agricultural Chemistry, University of Missouri, 1907—.

L. G. RINKLE, B. S.,

Assistant in Dairy Husbandry.

B. S., 1907, Michigan Agricultural College; Assistant in Dairy Husbandry, University of Missouri, 1907-08.

ADRIANA M. LIEPSNER, A. B., B. S., A. M.,

Assistant in Mathematics.

A. B. and B. S., University of Missouri, 1906, A. M., 1907, Fellow, 1906-07, Assistant in Mathematics, 1907-08.

EDGAR AUGUSTUS COCKEFAIR, B. S.,

Assistant in Botany.

B. S., in Agriculture, University of Missouri, 1907; Professor of Botany and Agriculture, Kirksville Normal, Summer of 1907; Assistant in Botany, University of Missouri, 1907-08.

CHARLES ROBERT MOULTON, B. S.,

Assistant in Agricultural Chemistry.

B. S., University of Illinois, 1907; Member of the Phi Lambda Upsilon and Sigma Xi Societies, and of the American Chemical Society; Assistant in Agricultural Chemistry, University of Missouri, 1907-08.

LEON FRANCIS SHACKELL,

Assistant in Agricultural Chemistry.

Student, University of Illinois, 1904-06; Assistant in Nutrition Investigations, 1904-07; Assistant in Agricultural Chemistry, University of Missouri, 1907-08.

LEONARD DIXON HAIGH, B. S., M. S.,

Assistant in Agricultural Chemistry.

B. S., University of Michigan, 1900, M. S., 1903; Assistant in Organic Chemistry, 1901-03; Instructor in Science, High School, Port Huron, Michigan, 1900-01; Commercial Chemist, Chicago, 1903-05; Instructor, Columbus Laboratories, School of Technology, Chicago, 1905-07; Assistant in Agricultural Chemistry, University of Missouri, 1907—.

CLARENCE WESLEY SUMNER,

Assistant in General Library, and in charge of the night service.

Student, Earlham College, 1904-07; Assistant Librarian, Earlham College, 1905-07; Assistant General Library University of Missouri, 1908—.

HENRY WOOD BERGER, A. B.,

Research Assistant in Physiology.

A. B., University of Michigan, 1907, Laboratory Assistant in Qualitative Analysis, 1901; Assistant Chemist, Peninsular Portland Cement Co., 1902-03; Chemist, National Portland Cement Co., 1903-04; Chief Chemist, Penin. Portland Cement Co., 1904-05; Student, University of Berlin (Germany), 1906-07; Research Assistant in Physiology, University of Missouri, 1908—.

JOHN O. HALVERSON, A. B., B. S.,

Assistant in Dairy Husbandry.

A. B., University of Minnesota, 1906, B. S., 1907; Assistant Chemist, Oliver Iron Mining Company, Hibbing, Minn., June to October, 1907; Assistant in Dairy Husbandry, University of Missouri, December, 1907—.

STUDENT ASSISTANTS.

*HORACE THARP MANN,
Student Assistant in Chemical Laboratory.

*WARD BARR MIX,
Student Assistant in Physics.

*HECTOR GEORGE SYLVESTER ANDERSON,
Student Assistant in Metallurgy.

*BOYD DUDLEY, JR.,
Student Assistant in Metallurgy.

*DE FORREST DON,
Student Assistant in Mineralogy.

*WILLIAM ALBERT BAUERIS,
Student Assistant in Surveying.

*ROWE FRANCIS McCRAE,
Student Assistant in Surveying.

ALBERT HOGAN, A. B.,
Student Assistant in Zoology.

FRANKLIN PARADISE JOHNSON,
Student Assistant in Anatomy.

OLIVER WENDALL HOLMES MITCHELL,
Student Assistant in Pathology.

LEWIS KNUDSON, B. S. in Agr.,
Student Assistant in Botany.

SAMUEL MOREELL,
Student Assistant in Physics.

CLARENCE ESTES,
Problem Reader in Chemistry.

CLAUDE BURTON HUTCHISON,
Student Assistant in Animal Husbandry.

JACOB CLUBB BEAM,
Student Assistant in Dynamo Laboratory.

HENRY PERLY RUSK,
Student Assistant in Animal Husbandry.

MELVIN ERNEST SHERWIN, B. S. in Agr.,
Student Assistant in Agronomy.

WILLIAM CLYDE MOREHEAD,
Student Assistant in Dynamo Laboratory.

KARL ABSOLOM McVEY,
Student Assistant in Dynamo Laboratory.

*FRANK CRAIG HASKELL LIVINGSTON,
Student Assistant in Gymnasium Equipment.

*HORACE ASHEL JOHNSON,
Student Assistant in Surveying.

G. MILDRED MOORE,
Student Assistant in Free Hand Drawing

ROBERT FRANCIS HOWARD,
Student Assistant in Botany.

JOHN HOWARD SNOW,
Student Assistant in Entomology.

ROBERT MILTON SMITH,
Student Assistant in Chemistry.

*RICHARD EDWARD ARMSTRONG,
Student Assistant in Ore Dressing.

*CLYDE REX WOOD,
Student Assistant in Drawing.

EULA WEEKS,
Problem Reader in Mathematics.

RUTH OLIVE COVINGTON, A. B., B. S. in Ed.,
Problem Reader in Mathematics.

EDWIN WILHITE PATTERSON,
Problem Reader in Mathematics.

JOHN HOWARD HART,
Problem Reader in Mathematics.

PERD O. SMITH,
Problem Reader in Mechanics.

WILL HARVEY BAINUM,
Problem Reader in Mechanics.

CECIL SHANNON LYNCH,
Student Assistant in Physics.

JAMES HUBERT VAN WAGENEN,
Problem Reader in Mechanics.

MARY LUCILLE KEENE,
Student Assistant in Botany.

LOUIS OTTO KUNKEL,
Student Assistant in Botany.

WEBSTER NEWTON JONES,
Student Assistant in Chemistry.

FRED. GEORGE HECHLER,
Student Assistant in Mechanical Engineering.

RALPH EARLY DUFFY,
Student Assistant in Shopwork.

LOUIS WALKER DUMAS, JR.,
Student Assistant in Shopwork.

H. ARTHUR JOHN FAUSEK,
Student Assistant in Shopwork.

OTHER OFFICERS.

J. G. BABB, A. B., A. M., LL. B.,
Secretary of the University.
A. B., University of Missouri, 1877, LL. B., 1881, A. M., 1890, Secretary of the University, 1889—.

R. B. PRICE, M. S.,
Treasurer.
M. S. (Hon.), University of Missouri, 1873; President Boone County National Bank.

IRVIN SWITZLER,
Registrar, and Secretary of the Council and Faculties.

WALTER KING STONE, A. B.,
First Assistant Librarian.
A. B., Christian Brothers College (St. Louis), 1877; Assistant Librarian, University of Missouri, 1897-1905; First Assistant Librarian, 1905—.

*CHARLES L. WOODS,
Secretary of the Executive Committee.

*HENRY WOOD,
Treasurer.

MILLARD LEWIS LIPSCOMB, A. M.,
Superintendent of Buildings and Grounds.

GEORGE E. KESSLER,
Supervising Landscape Architect.
Chief Architect, World's Fair, St. Louis.

BURR HOWEY OZMENT,
Director of Cadet Band.

MRS. LOUISE NORWOOD FITCH,
Matron.

MRS. IDA CUNNINGHAM,
Assistant Matron.

FRANK M. BROWN, B. S., M. S.,

Attorney for the Collection of the Collateral Inheritance Tax.

B. S., University of Missouri, 1878, M. S., 1881; Assistant in Office of Attorney-General of Missouri, 1881-1885; Reporter of Supreme Court of Missouri, 1885-1897; Attorney for the Collection of the Collateral Inheritance Tax, University of Missouri, 1905—.

JOSEPHINE M. SHIELDS,

Principal of the Training School for Nurses, and Head Nurse, Parker Memorial Hospital.

Post Graduate School for Nurses, Chicago, 1895; Graduate Student, Training School for Nurses, Presbyterian Hospital, Chicago, 1904; Principal of the Training School for Nurses, University of Missouri, and Head Nurse, Parker Memorial Hospital, 1904—.

MRS. MATTIE DRAKE WILLIAMS,

Matron of University Dining Club.

MERRILL EDWARD OTIS, A. B.,

Alumni Recorder and University Publisher.

A. B., University of Missouri, 1906; Alumni Recorder and University Publisher, University of Missouri, 1906-08.

JOSEPH WILLIAM AMMERMAN, A. B., A. M.,

Assistant to the Secretary of the University.

A. B., University of Missouri, 1904, A. M., 1905.

PEARL SMITH, A. B.,

General Secretary of Y. W. C. A.

A. B., University of Minnesota, 1906. General Secretary of Y. W. C. A. University of Missouri, 1906-08.

SAMUEL PERRY WILSON, A. B.,

General Secretary of the Y. M. C. A.

A. B., University of Michigan, 1905; Traveling State Student Secretary for Missouri, Y. M. C. A., 1905-06; General Secretary of the Y. M. C. A., University of Missouri, 1906-08.

*JESSE KELLER,

Librarian.

HAROLD S. WILLIAMS, A. B.,

Acting Secretary to the President.

A. B., University of Missouri, 1906.

HARVEY STEPHSON MARSH,
Intern at Parker Memorial Hospital.

MARTHA P. FINE,
Assistant to the Secretary of the University.

JOSEPH S. SUMMERS, A. B., A. M.,
Intern at Hospital.
A. B., William Jewell College, 1900; A. M., University of Missouri, 1901, Fellow in Physics, 1901-02; Principal, High School, Trenton, Missouri, 1902-03; Instructor in Physics, University of Missouri, 1903-04; Assistant, U. S. Bureau of Fisheries, 1906; Analyst in Physiology, University of Missouri, 1906-07; Intern at Hospital, 1907-08.

ESTELLE HICKOK,
Official Stenographer of the University.

GLENN R. HORNER, LL. B.,
General Manager of the University Dining Club.
LL. B., University of Missouri, 1907.

NON-RESIDENT INSTRUCTORS.

(Summer Session, 1907.)

WILLIAM LOUIS WESTERMANN, A. B., A. M., Ph. D.,
Assistant Professor of History and Latin.
(Assistant Professor of Ancient History, University of Minnesota.)

ROBERT WOLCOTT, B. S., M. D.,
Professor of Nature Study.
(Professor of Anatomy, University of Nebraska.)

NON-RESIDENT LECTURERS BEFORE THE UNIVERSITY—1907-1908.

PROFESSOR C. M. SHARP, Bible College, Columbia.

MISS MARY H. CLEARY, Teacher of Voice, Christian College, *"Selected Readings."*

REV. M. A. HART, Pastor, Christian Church, Columbia, Mo., *"The Golden Age."*

PROFESSOR WILLIAM TRELEASE, Director Botanical Gardens, St. Louis, *"Certain Ideals."*

MR. CHARLES DAVIS CARTER, Professor of Voice, Stephens College, Columbia, Mo., *"Baritone Recital."*

REV. M. L. THOMAS, Pastor, Baptist Church, Columbia, Mo., *"Religious Work in the University."*

MR. JOHN Z. WHITE, President, Missouri Referendum League, St. Louis, *"The Initiative and Referendum."*

MR. ROLLO M. OGDEN, Editor, Evening Post, N. Y., *"Recent Tendencies in Journalism."*

REV. C. M. BISHOP, Pastor, M. E. Church South, Columbia, Mo., *"Justice, Love and Life."*

DR. FRANK STRONG, President, University of Kansas, Lawrence, *"The Demands of the Times."*

REV. GEORGE R. DODSON, Church of the Unity, St. Louis, *"The Changes of Twenty Years."*

REV. W. W. ELWANG, Pastor, Presbyterian Church, Columbia, Mo.

REV. E. A. FREDENHAGEN, Superintendent, The Society for the Friendless, Topeka, Kansas; *"Prison Reform in Missouri."*

DR. R. H. CHITTENDEN, Director of Lawrence Scientific School, Yale University, *"Some New View Points in Nutrition."*

DR. CHARLES KNAPP, Professor of Classical Philology, Columbia University, *"The Greek Theater."*

PROFESSOR ALBION W. SMALL, Dean of the Graduate School Arts and Literature, University of Chicago, *"Social Problems of the University."*

DR. C. J. KEYSER, Adrain Professor of Mathematics, Columbia, University, N. Y., *"Mathematics."*

REV. JOHN P. FORBES, D. D., Church of the Messiah, Brooklyn, N. Y., *"Religion and Education."*

HON. L. J. LYONS, Assistant U. S. District Attorney, Kansas City, Mo., *"What Do Ye Seek?"*

REV. HENRY STILES BRADLEY, D. D., Pastor St. John's Methodist Church, St. Louis, Mo., *"An Evolutionist's Estimate of Jesus of Nazareth."*

REV. R. F. CAMPBELL, Moberly, Mo., *"Complete Living."*

MRS. PHILLIP N. MOORE, St. Louis, Mo., *"Women as Administrators in Higher Education."*

SHAILER MATHEWS, Dean of the Divinity School, University of Chicago, *"The College Man's Doubts."*

HON. W. S. COWHERD, Ex-Mayor, Kansas City, Mo.

JUDGE GEORGE H. WILLIAMS, Criminal Division No. 12, Circuit Court, St. Louis, Mo.

MR. EDWIN R. WEEKS, President of the Humane Society, Kansas City, Mo.

HON. C. A. NEWTON, Assistant Circuit Attorney, St. Louis, Mo.

RT. REV. DANIEL S. TUTTLE, Bishop of Missouri, St. Louis, Mo.

REV. CHARLES W. MOORE, Pastor Institutional Church, Kansas City, Mo.

STANDING COMMITTEES.

(The member whose name stands first on the committee is chairman.)

1. APPOINTED BY THE EXECUTIVE BOARD.

Board of Health—Professors Moss, Walter McNab Miller, Brown.

Assembly—Professors Riley, Jones, H. B. Shaw.

University Exhibit—Professors Pickard, Loeb, Waters.

Summer Session—Professor Meriam.

Dormitory Board—Professors Lipscomb, Babb, Defoe, Misses Breed, Day.

Library Committee—Mr. Severance, Professors Manly, Ellwood, O. M. Stewart, H. B. Shaw, Jackson, Mumford, Jesse, Meriam, Lawson.

University Life—Professors Hoffman, Jesse, Mumford, Belden, Jones, Lipscomb.

High School Day—Professors Hetherington, Meriam, Loeb, Mr. Ebright.

High School Essay and Debating Contests—Professors Loeb, Scott, Meriam.

Intercollegiate Athletics—Professors Hetherington, Loeb, Manly, H. B. Shaw, Jackson, Mr. Ebright, Mr. Babb, Mr. R. H. Switzler, Dr. W. W. Elwang, and two undergraduate members of the senior class to be chosen not later than the last week in September.

Entrance—Professor Loeb.

II. APPOINTED BY THE PRESIDENT.

Museum—Professors Lefevre, Marbut, Pickard, Mumford, Calvert, Ellwood, Reese.

Head Examiner—Professor Hedrick.

Rules—Professor Roberts.

Student Affairs—Professors Lipscomb, Hoffman, Frazier.

Honorary Degrees—Professor Pickard, Hedrick, H. B. Shaw, Whitten, Hinton.

Public Exercises—Professors Riley, Scott, Johnston.

Rhodes Scholarship—Professors Defoe, Manly, Brown.

Student Activities:

Publications—Professor Fairchild.

Musical—Professor Almstedt.

Literary, Debating, Dramatic—Professors Scott, M. A. Shaw, Trenholme.

Gymnasium and Athletics—Professor Hetherington.

Class and Miscellaneous—Professor Hoffman.

Accredited Schools—Professors Loeb, Coursault, Allen, Brown, Almstedt, Meriam.

Catalogue—Professors Lipscomb, Curtis, Belden.

Schedule of Studies and Examinations—Professors Spalding, Kellogg, Noyes, Mumford.

Examination of Class Cards—Professors Jones, Meriam, Waters, Lawson, McAlester, Shaw.

Committee of Recommendations—Deans of the several Departments.

Graduation—(College of Arts and Science) Professor Manly.

Graduation—(other departments) The Deans.

Special Students—The Deans.

III. APPOINTED BY THE DEAN OF THE COLLEGE OF ARTS AND SCIENCE.

Room Committee—(for Academic Hall) Professors Trenholme, Manly, Hedrick.

IV. APPOINTED BY THE DIVISIONS OF THE FACULTY OF THE COLLEGE OF ARTS AND SCIENCE.

Graduate Conference—(College of Arts and Science) Professors Loeb, Pickard, Weeks, Coursault, Hedrick, Jones.

UNIVERSITY FELLOWS—1907-08.

History:
URIEL WRIGHT HUGHES, A. B., University of Missouri, 1906, A. M., 1907.

Education:
RICHARD WHITE GENTRY, A. B., University of Missouri, 1905.

Romance Languages:
LOUIS ETIENNE IMBERT, A. B., University of Missouri, 1906, A. M., 1907.

Botany:
WILLIAM T. BOVIE, A. B., University of Michigan, 1905.

UNIVERSITY OF MISSOURI SCHOLARS, 1907-08.

Greek:
HELEN MOORE JOHNSON, A. B., University of Missouri, 1907.

Latin:
MABEL HELEN DUNCAN, A. B., University of Missouri, 1907.

Greek:
HELEN MAR KRABIEL, A. B., University of Missouri, 1907, B. S. in Education, 1907.

Education:
SHELDON EMMOR DAVIS, B. S. in Education, University of Missouri, 1907.

Sociology:
M. ECEL HAYS, A. B., University of Missouri, 1907.

Agronomy:
JOHN WILLIAM READ, B. S. in Agr., University of Missouri, 1907.

MISSOURI COLLEGE UNION SCHOLARSHIPS.

Archaeology:
MORRISON BEALL GIFFIN, A. B., Tarkio College, 1907.

Philosophy:
ALBERT CLAY ZUMBRUNNEN, A. B., Central College, 1907.

Greek:
MARY FREDERICK STALLINGS, A. B., Missouri Valley College, 1907.

PRIZE SCHOLARSHIPS FOR ESSAYS AND DEBATING.

Essay:
NELLIE MONROE and ALICE RICHARDSON.

Debate:
DUDLEY CANNON MONK.

GENERAL INFORMATION.

Historical Statement:

The legislative act establishing the public school system was approved February 9, 1839, and that establishing the University was approved February 11, 1839. This is considered the date of the foundation of the University.

The University was located at Columbia, Boone county, June 24, 1839. The cornerstone of the main building was laid July 4, 1840. Courses of instruction in Academic work were begun on April 14, 1841. A Normal Department was established in 1867, and was opened in September, 1868. In 1869 women were admitted first to the Normal Department, in 1870 to the Academic Department, and soon after to all Departments. The College of Agriculture and Mechanic Arts and the School of Mines and Metallurgy were made Departments of the University in 1870—the School of Mines and Metallurgy being located at Rolla, where it was formally opened November 23, 1871. The Law Department was opened in 1872; the Medical Department in 1873; and the Engineering Department in 1877. The Experiment Station was established, under act of Congress, in 1888. The Missouri State Military School was established in 1890. In June, 1896, the Graduate Department was established by the Board of Curators. In 1867 the State gave aid for the first time to the University—a sum of $10,000. On January 9, 1892, the Main Building of the University at Columbia was destroyed by fire. In the following March, the Legislature gave for buildings and equipment $236,577. In March, 1893, this fund was increased by a second appropriation of $264,000, and by $25,000 additional for a new building at Rolla. The Thirty-ninth General Assembly appropriated $33,000 to build an additional club house at Columbia, and the Fortieth appropriated $10,000 toward the erection of a hospital. The Forty-first General Assembly gave for buildings at Columbia $195,000, and for the same purpose at Rolla, $87,000. The Forty-second General Assembly, in addition to appropriations for maintenance, appropriated $184,200 for buildings and $152,000 for equipment and improvements at Columbia, and for equipment and improvements at Rolla, $108,000.

On account of the failure of the collateral inheritance tax, however, only $199,898.99 of the amount appropriated for buildings and

for equipment and improvements at Columbia was paid; and of the amount appropriated for equipment and improvements at Rolla, $50,788.14 was paid. The Forty-third General Assembly, in addition to appropriations for maintenance, appropriated for buildings at Columbia $70,000, and for equipment and other special purposes, $159,000. For a building at Rolla $20,000 was appropriated, and for equipment and other special purposes, $63,000.

The Forty-fourth General Assembly appropriated for maintenance of the departments at Columbia $400,000, and for maintenance of the School of Mines, $50,000. For buildings and other special purposes this General Assembly appropriated $417,500 for the departments at Columbia, and $70,000 for the School of Mines.

For more detailed statements concerning the various departments, see their special announcements in this Catalogue.

A. THE DEPARTMENTS AT COLUMBIA.

REQUIREMENTS FOR ADMISSION.

The following are the requirements for admission to the various Departments:

Graduate Department:

Graduates of either sex of the colleges and universities comprising the Missouri College Union and of other reputable colleges and universities, and (in exceptional cases, by special permission of the Faculty) other persons of liberal education are admitted to such graduate work as they are prepared for. See announcement of this Department, page 115.

College of Arts and Science:

Fifteen (15) units are required for entrance to this Department, but a condition will be allowed on two (2) of these units temporarily.

Teachers College:

Fifteen (15) units are required for entrance to this Department, but a condition will be allowed on two (2) of these units temporarily.

The School of Agriculture:

Fifteen units are required for admission to this School, but a condition will be allowed on two (2) of these units temporarily. In preparation for admission to the School of Agriculture, students are strongly urged to take at least one laboratory science; if only one science is taken, it is recommended that it be Physics.

Department of Law:

Sixteen (16) units (conditions allowed in two (2) of same), are required for entrance.

Department of Medicine:

The candidate for entrance to the Department of Medicine must present college work as follows: English, six (6) hours; German, six (6) hours; General Zoology, six (6) hours; General Physics, six (6) hours; Inorganic Chemistry, six (6) hours. He must also satisfy the entrance requirements specified for the College of Arts and Science, presenting Latin for the two units in foreign language required for admission to that College. Equivalent work in foreign languages may be substituted for the English and German. A student who lacks a part of the college work required for entrance may be admitted to the Department of Medicine upon condition that he register for this work in the College of Arts and Science. He may then take in addition such of the First year's work in Medicine as does not conflict with the work required for entrance.

The Department of Engineering:

Fifteen units are required for admission to the Department of Engineering, with two (2) conditions in any of the subjects accepted for admission excepting English, Algebra, and Plane Geometry. Three (3) units in English, one and one-half (1½) units in Algebra, one (1) unit in Plane Geometry, one-half (½) unit in Solid Geometry, two (2) units in foreign language, and one (1) unit in science are fixed requirements. It is strongly recommended that students present two (2) units in French or German to meet the requirements of two units in foreign language.

In 1909-10 sixteen (16) units will be required for admission in the Department of Engineering with two (2) conditions as above. *The courses in Engineering require that students be strong in mathematics and science. Those who are not strong in these lines are advised not to undertake work in Engineering.*

School of Journalism:

The same as the College of Arts and Science.

ENTRANCE CONDITIONS.

Students from accredited schools will not be admitted, subject to a condition, unless they are graduates of such schools. This applies to all Departments of the University.

Entrance Conditions must be removed within one year from the

date of entrance. Students should consult with the Committee on Entrance regarding the removal of such conditions.

SUBJECTS ACCEPTED FOR ADMISSION.

The subjects in which entrance units may be offered, the minimum and the maximum number of units that may be offered in each subject, and the number of units required in certain subjects for each Department, are presented in the table given below:

Subjects.	Max.	Min.	Required in the several departments.					
	For all departments.....		College of Arts and Science.	Teachers College.....	Agriculture...	Law.....	Engineering..	Medicine.....
English	4	2	3	3	2	3	3	One year of college work, as specified, in addition to the entrance requirements to the College of Arts and Science.**
Algebra	1½	1	1	1	1	.....	1½	
Plane Geometry	1	1	1	1	.....	.....	1	
Solid Geometry	½	½	.....	.....	.....	.....	½	
Trigonometry	1	½	.....	.....	.....	.....	.....	
History	4	1	.....	2	.....	.....	.....	
Civil Government	½	½	.....	.....	.....	.....	.....	
Latin	4	2	‡Two units in foreign language.	‡Two units in foreign language.	.....	.....	Two units in foreign language.	
Greek	3	2			.....	.....		
German	3	2			.....	.....		
French	3	2			.....	.....		
Spanish	3	2			.....	.....		
Physics	2	1	.....	.....	.....	.....	One unit in science.	
Chemistry	2	1	.....	.....	.....	.....		
General Biology	2	1	.....	.....	.....	.....		
Zoology	2	1	.....	.....	.....	.....		
Botany	2	1	.....	.....	.....	.....		
Physiography	1	1	.....	.....	.....	.....	.....	
*Agriculture	1	1	.....	.....	.....	.....	.....	
Physiology	1	1	.....	.....	.....	.....	.....	
Drawing	1	1	.....	.....	.....	.....	.....	
*Manual Training	1	1	.....	.....	.....	.....	.....	

*In the College of Arts and Science, Manual Training and Agriculture may not be offered.

‡In the fall of 1909 the two units in foreign langunge offered for admission must be in *some one* language.

**The two units in foreign language offered in Medicine must be Latin.

†In cases where the study of Physiology has followed a year's study of Biology.

DEFINITION OF UNITS IN THE SEVERAL SUBJECTS.

English. The four units that may be offered in English are as follows:

1. *Literature* two periods, *Grammar* two periods, *Composition* one period a week for one year.

2. *Literature* three periods, *Rhetoric* and *Composition* two periods a week for one year.

3. *Literature* two periods, *Rhetoric* and *Composition* three periods a week for one year. The Literature of the first three years should include the masterpieces recommended for college entrance in the North Central States. The masterpieces are:

For general reading: Shakespeare, The Merchant of Venice, Machbeth; the Six Roger De Coverly Papers in the Spectator; Irving, Life of Goldsmith; Coleridge, The Ancient Mariner; Scott, Ivanhoe, Lady of the Lake; Tennyson, Gareth and Lynette, Elaine, The Passing of Arthur; Lowell, The Vision of Sir Launfal; George Eliot, Silas Marner.

For minute and critical study: Shakespeare, Julius Caesar; Milton, Lycidas, Comus, L'Allegro, Il Penseroso; Burke, Conciliation with America; Macaulay, Essay on Addison and Life of Johnson.

4. For the fourth unit the candidate may offer either:

Literature. A year's work in English or American literature in addition to that described under 3; or

History of the Language. A year's work in the history of the language (Lounsbury's or an equivalent text); or

Literature and History of the Language. Half a year's work in each.

Mathematics. The four units which may be offered in Mathematics are as follows:

Algebra. One unit. Elementary Algebra, including the elementary operations, solution of single and simultaneous linear equations, factoring, radicals, exponents (both integral and fractional), and the solution of numerical quadratic equations.

One and one-half units. Complete elements of Algebra, including the above, and in addition, solution of simultaneous quadratics, of higher equations solved as quadratics, of problems whose solution depends upon quadratics; the formation of equations with given roots; the binomial theorem for *positive integral exponents;* logarithms, including the theory and the practical use of logarithms; and ratio and proportion. For more detailed outline see the report of the committee

of the American Mathematical Society, Bulletin, November, 1903; and a paper by E. R. Hedrick, Report of Missouri State Teachers' Association, 1904.

The above work in Algebra is supposed to have been *preceded* by suitable work in Arithmetic and in beginner's Algebra. It is strongly recommended that teachers give at least the last half year, preceding the regular Algebra work, to the beginner's Algebra, as an introduction to Algebra, and a completion of Arithmetic.

The text should cover the ground in the best Algebras, preferably the newer books which contain work on graphs. Books which do not contain all of the above mentioned are sufficient for the first unit, but not for the unit and a half.

Plane Geometry. One unit. The work in Plane Geometry, in order to be acceptable, *must cover a full year* in any good text. It is recommended that part of the year be spent upon the applications of Algebra to Geometry, and of Geometry to Algebra.

Solid Geometry. One-half unit. The work in Solid Geometry, in order to be acceptable, must cover a full half year's work. It is recommended that the work be accompanied by work of semi-laboratory character, including model-making, experimental verification of theorems by weighing, etc. Such laboratory work in mathematics will be allowed due weight in deciding the merits of schools and of individuals.

Trigonometry. One-half unit. This is supposed to cover a half-year in a high school. It includes the elementary notions, logarithms, functions of obtuse angles, solution of right angled triangles, and some work in oblique triangles. This work will be accepted for admission to the courses requiring Trigonometry, but will not be accepted for advanced standing in the University.

One unit. The work done in Trigonometry in the high schools of the State has been unsatisfactory from the standpoint of the University, on account of the small time assigned it. Hereafter, if Trigonometry be given, it is recommended that a full year be spent upon it. This should include such work as that given in any standard text; and the student should be *thoroughly* drilled in logarithms, solutions of right and oblique triangles, various processes of transformation, and the elements of Spherical Trigonometry.

History. The four units that may be offered in History are as follows:

Ancient History. One unit. The history of the Oriental, Greek and Roman Periods as given in any standard high school text, such

as Myers' Ancient History (Revised edition), Botsford's Ancient History for Beginners, or West's Ancient History.

Medieval and Modern History. One unit. The history of Europe during the medieval and modern periods as given in Myers' Medieval and Modern History or other good text of equal scope.

English History. One unit. The political and social history of the English people as given in any good advanced text. A half unit will be given for work of a less advanced character, based on such works as Ransom's Short History of England, or Montgomery's History of England.

American History. One unit. The history of the Colonial and United States periods as given in Channing's History of the United States, or other advanced text. For work of less comprehensive character, only a half unit will be granted.

A half unit in English or American History will be accepted only when accompanied by at least one unit in European History.

Civil Government. One-half unit may be offered in Civil Government. The equivalent of one-half year's work in the fourth year of a high school. A knowledge of the chief organs of local, state, and national government, their relations to each other, and the important functions assigned to each group. Some knowledge of historical development will be required, and no credit will be given unless the student offers at least one-half unit in American History.

Latin. The four units that may be offered in Latin are as follows:

1. Collar and Daniell's First Latin Book or the equivalent.

2. Three books of Caesar's Gallic War, with composition based thereon in Moulton and Collar's Preparatory Latin Composition or in Daniell's New Latin Composition. For one book of the Gallic War the equivalent in time of Viri Romae, Nepos, or Eutropius may be offered.

3. Two additional books of the Gallic War and four Orations of Cicero with compositions based thereon in the books mentioned above.

4. Ovid's Metamorphoses (2,000 lines) and four books of Vergil's Aeneid, with prosody.

Greek. The three units that may be offered in Greek are as follows:

1. Ball's Elements of Greek, or White's First Greek Book.

2. Four books of Xenophon's Anabasis, Pearson's Greek Prose Composition, or its equivalent, Goodwin's Greek Grammar.

3. Ten orations of Lysias and the first four books of Homer's Odyssey, or an equivalent amount of other Greek authors. Bridgman's Parallel Exercises based on Lysias.

German. The three units that may be offered in German are as follows:

1. (a) Familiarity with inflection, the more common prepositions, the simpler uses of the modal auxiliary, and elementary word-order and syntax. (These specifications are in no sense restrictive, but are simply suggestive of the thoroughness required.) (b) Ability to translate a passage of simple prose at sight, with the help of a vocabulary of the less usual words. (c) Ability to pronounce German, and to recognize German words and simple phrases when spoken; intelligent and fluent reading of the text.

2. (In addition to 1.) (a) The translation of ordinary German at sight. This presupposes, in addition to the elementary requirement, the reading of works like the following: *Burg Neideck* (*Riehl*), *Die Journalisten* (*Freytag*), *Wilhelm Tell* (*Schiller*), from 200-250 pages. (b) A thorough knowledge of accidence of the principal values of prepositions and conjunctions, and of the essentials of German syntax —particularly that of the modal auxiliaries and subjunctive and infinite moods. (c) The writing in German of a paragraph upon some subject selected from the works specified above. (d) Ability to follow a recitation conducted in German, and to answer in that language questions asked by the instructor.

3. (In addition to 1 and 2.) (a) The translation of continuous English prose into idiomatic German. (b) A brief essay in German upon one of two subjects from works like the following: Freytag's *Doktor Luther;* Keller's *Dietegen;* Schoenfeld's *Historical German Prose;* Gutzkow's *Kopf u Schwert;* Lessing's *Emelia Galotti.*

French. The three units that may be offered in French are as follows:

1. A knowledge of the main principles of grammar, and a good pronunciation; the ability to translate at sight ordinary nineteenth century prose, represented by not less than four hundred pages selected from at least three authors.

2. A year's work in addition to that outlined under 1. The candidate will be required to show proficiency in syntax, the ability to translate at sight standard prose into simple and idiomatic English, and some facility in writing in French short accounts connected with the works read, or in translating from English a passage of connected prose. Special attention should be paid throughout to pro-

nunciation. Texts should be confined chiefly to standard works of the eighteenth and nineteenth centuries.

3. By a third unit in French is meant the results of a progressive study of the language during a third year under the same general conditions as for a second unit. These should comprise the reading of about a thousand pages of standard French, classical and modern; and the writing of numerous short themes in French, in which the rules of syntax may be correctly observed. The works should be read, not translated, with the exception of the more difficult passages.

Spanish. The three units that may be offered in Spanish are as follows:

1. A year's work, with the same requirements in grammar, pronunciation, and reading as for the first unit in French, described above.

2. A second year's work in Spanish, parallel to the second year in French, described above. It is recommended that the choice of texts for the second year be confined chiefly to standard works of fiction from the nineteenth century (Caballero, Alarcon, Valera, Galdos, Valdes).

3. A third unit in Spanish comprises the study of Cervantes, Don Quijote, and Novelas Ejemplares; Quovedo, Suenos; Guzman de Alfarache (Part 1); Lazarillo de Tormes. The last two, if difficult to be found, may be replaced by three plays of Lope de Vega and two of Calderon.

Chemistry. The two units that may be offered in Chemistry are as follows:

1. A year's work in Chemistry, five periods a week, of which at least two must be devoted to laboratory work.

2. A second year's work in the subject, with periods as above.

Note-books showing work done must be presented by those who are required to take the entrance examination.

Physiography. If a candidate desires to offer one unit in Physiography, he will be examined according to the following scheme:

Air. Construction and interpretation of weather maps; use of instruments; relation of cyclones to wind direction, rainfall, and temperature; presentation of record of temperature and pressure observations kept through one school year.

Ocean. Construction and interpretation of tidal curves from tide tables; interpretation of depth charts and temperature curves.

Land. Determination of ten common minerals from their physi-

cal properties; determination of ten common rocks on the basis of mineral compositions and structure; soils—determination of composition of selected examples; sands and gravels—recognition of constituents and derivation; mapping—(a) instruments used, scale, projection, methods; (b) presentation of a detailed contour map, drawn to scale, of at least one square mile, showing, besides relief and drainage, distribution of the various rock beds (limestone, sandstone, shale, etc.), soils (alluvial or non-alluvial), forest trees, etc.; reading of topographic maps, with exercises in description of topographic types from study of the maps.

A map of four square miles showing in addition to the subjects shown on the map offered for the first unit, the roads, railroads, farm houses, forest, cleared land, mines, clay pits and quarries; drawings of the soil and rock exposures in the clay pits, mines, and quarries of his neighborhood, showing the relative position, extent (within the pit or quarry), thickness, and character of each bed; a list and description of the various minerals and rocks found within the area of his map; and an examination and passing grade on the physical features of that part of the United States lying east of the Rocky Mountains.

Physics. The two units that may be offered are as follows:

1. A year's work, five periods a week, of which at least two must be double periods devoted to individual laboratory work. At least 35 exercises, selected from a list of 60 or more, equivalent to those recommended by the National Education Association, must be completed.

2. A continuation of the laboratory for another year, or a year's work in a more advanced text together with laboratory work.

Laboratory note-books must be presented by those who are required to take the entrance examination.

General Biology. The two units that may be offered in General Biology are as follows:

1. One year's work, including not less than five periods a week, two of which at least must be devoted to laboratory work. The following series of animal and plant forms is recommended: (1) Amoeba, (2) Paramoecium or Vorticella, (3) Haematoccoccus, (4) Yeast Plant, (5) Spirogyra, (6) Hydra, (7) Mucor or Penicillium, (8) Earthworm, (9) Crayfish, (10) Grasshopper, (11) Fern, (12) Fresh-water Mussel, (13) Seeds and Seedlings, (14) Flowering Plant, (15) Frog, with metamorphosis.

2. More advanced work in the subject, with a study of additional forms during the same length of time as required for 1.

Note-books and drawings showing work done must be presented by those who are required to take the entrance examination.

Zoology. The two units that may be offered in Zoology are as follows:

1. One year's work with periods as described above for General Biology. The following series of animals is recommended: (1) Protozoa (Amoeba and Paramoecium or Vorticella), (2) A Coelenterate (Hydra), (3) An Echinoderm (Sea-urchin or Starfish), (4) An Annelid (Earthworm), (5) A Parasitic Worm (Cestode), (6) A Decapod Crustacean (Crayfish), (7) An Orthopterous Insect (Grasshopper, and comparison with other Orthoptera), (8) A Coleopterous Insect), (9) A Lepidopterous Insect, with larva and pupa, (10) A Hymenopterous Insect, (11) A Pelecypod Mollusc (Freshwater Mussel), (12) An Amphibian (Frog, with metamorphosis).

2. More advanced work in the subject, with study of additional forms, during same length of time as required for 1.

The study of each form must include a consideration of (1) habitat, (2) geographical distribution, (3) food, (4) adaptations to environment, including relation to other forms of animal and plant life, (5) habits and functions, (6) life-history, and (7) structure.

Note-books and drawings showing work done must be presented by those who are required to take the entrance examination.

Botany. The two units that may be offered in Botany are as follows:

1. *Morphology and Physiology.* An equivalent of Bergen's Foundations of Botany and Coulter's Plant Relations.

2. *Histology and Taxonomy.* An equivalent of Gray's Botanical Text-book, Vol. 1 (in part) and Gray's Manual or Britton's Handbook.

Credit will be given for no work, unless note-books are presented.

Physiology. The unit in this subject shall represent a year's work, including individual laboratory instruction and demonstrations, the equivalent of Martin's Human Body, Colton's Physiology, or Huxley's Physiology, edited by Lee.

Agriculture. A unit in Agriculture shall consist of an equivalent of Goodrich's "First Book of Farming or Bailey's First Principles of Agriculture," with laboratory work.

Drawing. The one unit that may be offered in Drawing is as follows:

A year's thorough work in Freehand Drawing, or in Mechanical Drawing, or in a combination of the two. This unit is the equivalent of five laboratory periods a week throughout the year. Drawings must be presented by students desiring credit in this subject for entrance.

Freehand. The ability to draw and paint natural growths (leaves, flowers); to give correct proportions, perspective, and light and shade in drawing from geometric solids, vases, etc.; to paint with water colors from simple objects (fruit vases); to make designs suitable for book covers and school programmes, in black and white and in color.

Mechanical. Use of instruments and plain lettering; simple geometrical problems, plain freehand lettering and dimensioning; plans, elevations, and cross-sections; development of the *idea of plan, elevation* and *section* from geometrical solids; drawing accurately to scale plans, elevations, and sections from pupil's own measurements and dimensioned freehand sketches of simple machine parts; plan and elevation of some building measured by pupils. The explanation and practice of isometric and cabinet views as applied especially in joinery.

Combination. The ability to draw, as outlined under the Freehand Course, without the painting; the use of the instruments, plain lettering, the drawing of simple plans and elevations as outlined under the Mechanical Course.

Manual Training. One unit in Manual Training may be offered for admission to any Department except the College of Arts and Science. The candidate must give satisfactory evidence of having completed a year's work (five periods a week of at least an hour and a half each) in Manual Training.

ENTRANCE EXAMINATIONS.

Time of Entrance Examinations:

Examinations for admission will be held at the University, September 14, 15, 16, 1908. All persons desiring to enter the University during the First semester of the session of 1908-09, except those holding certificates of graduation from Accredited Schools and those who have already otherwise fulfilled the entrance requirements, must take these examinations. They should present themselves at the hour given below at room 44, Academic Hall, in which all examinations are held.

The programme of examinations is as follows:

Monday, September 14.—English, 8-10; Algebra, 10-12; Plane and Solid Geometry and Trigonometry, 2-4; Greek, 4-6; Physiography, 4-6.

Tuesday, September 15.—History, 8-11; Civil Government, 11-12; Manual Training, 11-12; Latin, 2-4; Chemistry, 4-6; Agriculture, 4-6.

Wednesday, September 16.—Physics, 8-10; General Biology and Zoology, 10-12; Botany, 10-12; Drawing, 2-3; French and Spanish, 3-6; German, 3-6; Physiology, 4-6.

Credit for Entrance Examinations:

Students who pass the entrance examinations will receive entrance cards from the Committee on Entrance.

Entrance examinations will also be held on Monday, Tuesday and Wednesday of the opening week of the Second semester and during the first three days of commencement week in June. The programme of hours for these examinations will be the same as indicated above.

Further information concerning entrance examinations may be obtained by addressing the Chief Examiner or the Committee on Entrance, University of Missouri, Columbia.

ADMISSION BY CERTIFICATE.

Acceptance of Credits by Committee on Entrance:

All persons who wish to offer credits in place of an entrance examination in any subject should have them certified to by the proper official of the school in which the credits were made. Blank forms for such certificates will be furnished by the Registrar of the University upon application. These certificates should be sent as soon as possible to the Committee on Entrance. This committee will then notify the student that his credits are approved or that he will be required to take entrance examinations in the respective subjects.

Certificate of Honorable Dismissal:

All persons who offer credits from other Colleges or Universities must present certificates of honorable dismissal from such institutions.

ADMISSION FROM ACCREDITED SCHOOLS.

The University will admit without examination such graduates of an Accredited School as offer proper credentials of the fact that they have completed the subjects required for entrance to the Department which they desire to enter. For these requirements, see table on page 73. It will admit free of entrance, library, and incidental fees for the first year the student graduating from the school with the highest honors.

The diploma will not be accepted as a credential. The student must present the proper form of certificate, signed by the Principal or Superintendent of the Accredited School. Blank certificates will be furnished by the Registrar of the University upon application. *The University recommends that Accredited Schools do not issue such certificates to any students except to those who have graduated. Students from Accredited Schools will not be admitted subject to a condition, unless they are graduates of such schools.*

The certificates should be filled out and sent to the Committee on Entrance, Columbia, Missouri. This committee will then notify the student in due time that his certificate has been approved for entrance or that certain additions or corrections are necessary. As the necessity for correction appears in many cases, the student will avoid delay and inconvenience by sending the certificate *as soon as possible,* and in any event some time in advance of the opening of the session.

ACCREDITED SCHOOLS.

(Accredited for fifteen or more units.)

Fully Accredited:

Albany High School.
Appleton City Academy.
Aurora High School.
Bartlesville (Okla.) High School.
Bethany High School.
Blees' Military Academy (Macon).
Bloomfield High School.
Bonne Terre High School.
Boonville High School.
Braymer High School.
Brookfield High School.
Butler High School.
California High School.
Cameron High School.
Carrollton High School.
Carterville High School.
Carthage High School.
Caruthersville High School.
Centralia High School.
Charleston High School.
Chillicothe High School.
Christian College (Columbia).
Clinton High School.
Columbia High School.
Columbia Normal Academy.
DeSoto High School.
Dexter High School.
Doniphan High School.
Elmwood Seminary (Farmington).
Enid (Okla.) High School.
Everton High School.
Excelsior Springs High School.
Fayette High School.
Flat River High School.
Fort Smith (Ark.) High School.
Fredericktown High School.
Gallatin High School.
Grant City High School.
Greenfield High School.
Greenville (Miss.) High School.

Hannibal High School.
Hardin College (Mexico).
Harrisonville High School.
Hosmer Hall (St. Louis).
Hot Springs (Ark.) High School.
Iberia Academy.
Independence High School.
Jackson Military Academy.
Jefferson City High School.
Joplin High School.
Kahoka High School.
Kansas City Central High School.
Kansas City Manual Training High School.
Kansas CityWestport High School.
Kemper Military School (Boonville).
Kennett High School.
King City High School.
Kirkwood High School.
Lamar High School.
La Plata High School.
Lebanon High School.
Lexington High School.
Liberty High School.
Linneus High School.
Logan County (Guthrie, Okla.) High School.
Louisiana High School.
Macon High School.
Malden High School.
Marionville Collegiate Institute.
Marshall High School.
Mary Institute (St. Louis).
Maryville High School.
Mexico High School.
Moberly High School.
Monroe City High School.
Montgomery City High School.
Mound City High School.
Mount Vernon High School.
Muskogee (Okla.) High School.
Neosho High School.
Nevada High School.
Norborne High School.
Oklahoma City (Okla.) High School.
Oregon High School.
Palmyra High School.
Peirce City High School.
Pine Bluff (Ark.) High School.
Plattsburg High School.
Poplar Bluff High School.
Rich Hill High School.
Richmond High School.
Ridgeway High School.
Rolla High School.
St. Charles High School.
St. Joseph High School.
St. Louis Central High School.
St. Louis McKinley High School.
St. Louis Manual Training School.
St. Louis Yeatman High School.
Savannah High School.
Sedalia High School.
Shelbina High School.
Shelbyville High School.
Slater High School.
Smith Academy (St. Louis).
Springfield High School.
Steelville High School.
Stephens College (Columbia).
Sweet Springs High School.
Tipton High School.
Trenton High School.
Tulsa (Okla.) High School.
University Military School (Mobile, Ala.)
Vandalia High School.
Warrensburg High School.
Washington High School.
Webb City High School.

Webster Groves High School.
Wentworth Military Academy (Lexington).
Western Military Academy (Upper Alton, Ill.)
West Plains High School.
William Woods College (Fulton).
Windsor High School.

Partially Accredited:

In addition to the above named schools, there are some "partially accredited schools" which do not fulfill all the requirements for an accredited school, but offer at least twelve approved units. Work done in these schools is accepted for entrance so far as it is approved, but their graduates must submit to an examination in other subjects which they wish to offer for entrance. These schools are:

Belton High School.
Bolivar High School.
Bowling Green High School.
Breckenridge High School.
Brunswick High School.
Campbell High School.
Eldorado Springs High School.
Hamilton High School.
Higginsville High School.
Holden High School.
Hopkins High School.
Houston High School.
Huntsville High School.
Jackson High School.
Keytesville High School.
Kirksville High School.
La Belle High School.
Lancaster High School.
Lee's Summit High School.
Liberty Ladies College.
Lockwood High School.
Maitland High School.
Memphis High School.
Miami High School.
Milan High School.
Monett High School.
Mountain Grove High School.
New London High School.
New Madrid High School.
Odessa High School.
Paris High School.
Pawnee High School (Okla.).
Pleasant Hill High School.
Princeton High School.
Rockport High School.
Sikeston High School.
Troy High School.
Unionville High School.
Van Buren (Ark.) High School.
Versailles High School.
Walther College (St. Louis).
Wellsville High School.

Inspector of Schools:

The position of Inspector of Schools has been established by the Board of Curators to facilitate the work of bringing the secondary schools into close connection with the work of University.

Accredited Schools in Other States:

The University will admit, without examination, such graduates of schools fully accredited by other State Universities of similar rank, as comply with the requirements for admission from Accredited Schools, indicated on page 82.

STATE NORMAL SCHOOLS.

Graduates from the full four years' course of the State Normal Schools will be admitted by the Committee on Entrance to any Undergraduate Department of the University. They will also be given credit for advanced standing in the College of Arts and Science and Teachers College for all courses in excess of entrance requirements, which count towards the degrees of Bachelor of Arts (A. B.) and Bachelor of Science (B. S.) in Education. In general, a "unit" of work in a State Normal School will be counted as six hours' credit in the University.

ADVANCED STANDING.

Claims for advanced standing, in order to receive recognition, must be made by the student within one semester after entrance. Such claims must be presented to the Dean of the Department.

Students who wish to have their claims for advanced standing passed upon before matriculation may present them at any time to the proper authority.

Of his fitness to pursue advanced work the student must satisfy, by examination or otherwise, the Professors of the subjects which he elects.

ADMISSION OF SPECIAL STUDENTS AND HEARERS.

Special Students:

In recognition of the fact that experience and maturity tend to compensate in a measure for the lack of scholastic attainments, persons who can give satisfactory evidence that they are over 21 years of age will be admitted to the University as special students without passing the regular examination required for entrance, under the following conditions: (1) They must show good reason for not taking a regular course; (2) They must pass such examinations or other tests as demonstrate fitness to pursue profitably all the subjects selected by them; (3) They will not be allowed to take work in more than two subjects with such kindred work as the

professors in charge of the major subjects may approve. Special Students are expected to do specially good work in the subjects which they choose, and are required to take all regular examinations. If at any period of the session their work becomes unsatisfactory in one or both of the two major subjects, their connection with the University shall be severed by the Dean of the Department. Special students cannot become candidates for degrees until they have satisfied entrance requirements to the Department in which the degree is offered. Entrance cards for Special Students are issued by the Deans of the respective Departments, but the approval of the professors in charge of the major subjects is required before the student can be admitted.

Hearers:

With the consent of the President, the Dean, and the instructors concerned, students may be admitted to classes in any Department as Hearers. Hearers shall be enrolled and pay fees, but are not required to take examinations and receive no credit toward a degree. Entrance cards for Hearers are issued by the Deans of the respective Departments.

DIRECTIONS FOR NEW STUDENTS.

Entrance.

New students should first satisfy the requirements for entrance. *This should be done before paying entrance fees.* The requirements for admission to the different departments are indicated on pages 71-81.

Students contemplating taking the Military Course should call upon the Commandant of Cadets, basement of Academic Hall, after satisfying entrance requirements, and *before paying any fees.*

Regular Students:

All candidates for admission as regular students, except those whose certificates have been accepted by the Committee on Entrance, must take the entrance examinations. All entrance examinations will be held in Academic Hall, third floor, room 44. The program of entrance examinations is given on page 81.

Students who pass the entrance examinations will receive their "entrance cards" from the Committee on Entrance, Academic Hall, room 46. Students whose certificates have been accepted by the Committee on Entrance will receive their "entrance cards" from a representative of the Committee, who will be in the main corridor on the first floor of Academic Hall each day during the first week of the session.

Special Students:

Persons over 21 years of age may be admitted as special students without meeting the regular prescribed entrance examinations, under the conditions indicated on page 86. An application for admission as a special student should be made to the Dean of the Department which the student desires to enter. If the Dean approves the application he will issue the candidate an entrance card as a special student.

Graduate Students:

Persons are admitted as Graduate students by the Dean of the department in which they desire to pursue their work. In the College of Arts and Science they are admitted by Professor Isidor Loeb, Chairman of the Graduate Conference, Academic Hall, room 46.

REGISTRATION.

Registration Week:

The regular session of the University opens on Monday, September 14, 1908. During the first week of the session representatives of the Treasurer and Secretary of the University will be in the main corridor on the first floor of Academic Hall from 8:30 to 12:00 m. and from 2:00 to 5:00 p. m., for the purpose of receiving entrance fees and delivering "study cards."

Late Registration:

Every student who applies for admission to the University after the first week (September 14-19, 1908, First semester; February 1-6, Second semester, 1909) of the semester in which he seeks admission shall pay a fee of $5 for late registration, in addition to the fees already provided for; provided, however, that no student shall be admitted to any department of the University for work for which he is to receive credit at a later date than October 15 of the First semester, and March 1 of the Second semester, except in extraordinary cases, when the Dean shall have power to admit him on the recommendation of the Committee on Entrance. Students entering late shall be examined or conditioned in the work which their classes have already done. Nothing herein contained shall apply to students entering for the Short Winter Course in Agriculture, or to Hearers.

"Study Cards" and "Course Cards:"

Each Student must record on his "study card" all courses taken by him in the University. He must, in addition, fill out a "course

card" for each course entered on the "study card." "Course cards" can be obtained in the office of the Registrar, room 18, Academic Hall, or from the professor of the subject in case he desires to consult with students before allowing them to enter upon his work. The "study card," with accompanying "course cards" and "entrance card," must be presented for approval to the Dean of the department not later than 5:00 p. m. of the day after it is issued, and in no case later than 5:00 p. m. on Saturday of the first week of the semester.

In making out the "study card" the student must conform to the regulations governing the work in the department and course in which he is entered. In all departments students should consult the Dean in making out their "study cards." In the College of Arts and Science he should also consult each teacher under whom he wishes to study before making out his "study card," as the teacher must be satisfied of the student's preparation to undertake the work.

Board and Lodging.

Students who desire assistance in finding rooms and board should apply to Professor M. L. Lipscomb, Engineering Bldg., second floor, room 19. Women students before securing rooms or table board must consult The Adviser of Women, Miss Mary B. Breed, Read Hall.

REQUIRED WORK IN MILITARY SCIENCE AND TACTICS OR IN PHYSICAL TRAINING.

Beginning with the regular session of 1908-9, all students in the regular session of the University at Columbia, belonging to the Freshman (or First year class) in any Department, shall be enrolled in either the Military Department or in the Department of Physical Training, and shall be required to take the regular course therein prescribed for one hour's credit a semester for that year; provided, that a committee shall be authorized to excuse from compliance with this rule any student who is physically disqualified or any student for whom the University may not be able to provide adequate instruction or equipment for physical training, and also any student who is actually compelled to use the time required for compliance for the purpose of supporting himself; provided, further, that these regulation shall not apply to any student in any Department who has completed the equivalent of one (1) year's work in the College of Arts

and Science; and provided, further, that these regulations shall not apply to any student in any department who has completed the equivalent of one year's work in Military Science and Tactics in an accredited Military School.

STUDIES.

Regulations in Regard to Studies:

No student in any Department of the University may have more than 18 hours a week in the lecture room.

Students in the College of Arts and Science are expected to spend not less than 12 nor more than 16 hours a week at lectures or recitations.

One hour in the lecture-room is considered the equivalent of two and one-half hours in the laboratory, the drawing-room, or the shops.

Study-cards taken out at entrance must be properly filled out and presented for approval to the Dean of the Department not later than 5 o'clock p. m. of the day after they are issued.

Students who enter the University in the First semester and wish to make any change in their study-cards for the Second semester, are required to make such change on or before the close of the first Wednesday of the Second semester. Students who fail to comply with this requirement must pay a fee equal to one-half of the regular fees for the session, unless specially excused. Excuses will not be granted except for grave reasons.

Studies in Other Departments:

Students registered in one department may, with the consent of their Dean, take work in other departments if, in the judgment of the professors concerned, they are prepared for such work. Students taking work in another department than that in which they are registered are subject as respects this work to the rules of the department in which the work belongs.

1. Instruction in Military Science and Tactics is open to men in all Departments. A maximum credit of four (4) hours is given in the College of Arts and Science, in the Teachers College, in the School of Agriculture, and in the School of Engineering.

2. Students may take work in the Summer Session (see Appendix) and receive a credit therefor of seven hours for a term of eight weeks. No additional credit for summer work is allowed except by special permission of the Director of the Summer Session.

Graduate Studies:

See announcement of Graduate Department, page 115.

Examinations:

Examinations at the end of each semester close the studies pursued to that point.

Class Honors:

The honor of valedictorian is awarded in the various departments to the student who has the highest average grade.

Reports:

From all departments, except those of Law and Medicine, reparents or guardians, showing their standing in the subjects that parents or guardians, showing their standing in the subjects that they are pursuing. The reports of students in Law and Medicine are sent out at the close of the session.

DEGREES AND CERTIFICATES.

Degrees:

The following degrees are now conferred by the University:

In the College of Arts and Science, Bachelor of Arts (A. B.), Master of Arts (A. M.), and Doctor of Philosophy (Ph. D.)

In the Teachers College, Bachelor of Science (B. S.) in Education, Master of Arts (M. A.), and Doctor of Philosophy (Ph. D.)

In the School of Agriculture, Bachelor of Science in Agriculture (B. S.), Master of Science in Agriculture (M. S.), and Doctor of Philosophy (Ph. D.)

In the Department of Law, Bachelor of Laws (LL. B.)

In the Department of Medicine, Doctor of Medicine (M. D.)

In the Department of Engineering, Bachelor of Science (B. S.), in Civil Engineering, in Electrical Engineering, in Mechanical Engineering, in Sanitary Engineering, in Chemical Engineering and in Hydraulic Engineering, respectively. The degree of Civil Engineer (C. E.), Electrical Engineer (E. E.), Mechanical Engineer (M. E.), Chemical Engineer (Ch. E.), are also given for graduate work.

In the School of Mines and Metallurgy at Rolla, Bachelor of Science (B. S.), and Bachelor of Science (B. S.), in Mining Engineering, in Civil Engineering, and in Chemistry and Metallurgy, respectively. The graduate degrees of Engineer of Mines (E. M.), and of Civil Engineer (C. E.), also are given.

Except that of Doctor of Laws (LL. D.), no degrees are conferred *honoris causa.*

For further information, see the announcements of the respective Departments of this Catalogue.

Certificates:

Certificates are given in the Teachers College, and in Military Science and Tactics, and to students who have completed the prescribed Course in the Training School for Nurses.

COMMENCEMENT EXERCISES.

The Commencement Exercises occupy the four days ending with the first Wednesday in June of each year. For specific days, see Calendar, page 5.

FELLOWSHIPS, SCHOLARSHIPS AND PRIZES.

University Fellowships and Scholarships:

The University offers annually a number of University Fellowships yielding stipends of $250, and University Scholarships with stipends of $150. University Fellows and Scholars are exempt from payment of tuition and of all fees and deposits in the subjects in which they hold fellowships and scholarships. These exemptions increase the value of the fellowships and scholarships by at least $200 when comparison is made with those in institutions which require the payment of high tuition fees. These fellowships and scholarships will be awarded to the applicants who are best prepared and are of the highest promise in scholarship, irrespective of the lines of work they may desire to pursue. It is expected that fellows and scholars will be prepared for graduate work in the subject in which they elect, and that they will devote themselves mainly to work in this subject. They will do no teaching, but may be called upon to render a limited amount of service to the University in other ways. University Fellows and Scholars are allowed to engage in outside work only with the consent of the Dean of the Department, and of the Professor of the subject which they elect. The Executive Board, upon the recommendation of such Dean and Professor, may deprive any student of his fellowship or scholarship whenever it may appear that he is not devoting himself as he should to his work as a fellow or scholar. Applications must be filed not later than April 1, in order to receive consideration in the award for the next Academic year. Applications received after this date and not later than June 1,

will be considered in filling any vacancies which may occur in the fellowships or scholarships. Application blanks may be obtained from the Registrar of the University, and, when filled out, should be sent to the President of the University, Columbia, Mo.

Missouri College Union Scholarships:

The University offers annually a number of Graduate Scholarships in the College of Arts and Science to the graduates of the colleges comprising the Missouri College Union. The award of these scholarships is subject to the following regulations:

1. A graduate scholarship in the College of Arts and Science is established for each of the colleges comprising the Missouri College Union.

2. The faculty of each of said colleges shall be entitled to recommend for such scholarship, on or before March 15 of each year, the student graduating in that year, or in either of the two years immediately preceding, who, in the judgment of the faculty, is best prepared to do graduate work.

3. The University will award a graduate scholarship for one year, with an annual stipend of $125, to each of the students recommended in the manner indicated above.

4. The holders of these scholarships shall be entitled to all the privileges and exemptions, and shall be subject to all of the regulations which are provided for holders of University Scholarships.

The James S. Rollins University Scholarships:

In 1889, the Hon. James S. Rollins left six thousand dollars ($6,000) to endow six Scholarships in the University—"the interest" on this $6,000 "to be forever used and appropriated under the authority and by the direction of the Board of Curators of the University of the State of Missouri, for the following purposes, that is:

"To found Scholarships, to be awarded by the President and Faculty of the University—the vote in each case to be by ballot—as a reward for excellence and promise in—

"*First.* The College of Arts, for the degree of A B., fifty dollars.

*"*Second.* The College of Arts, for the degree of B. S., fifty dollars.

"*Third.* The College of Agriculture and Mechanic Arts, for the degree of B. Agr., fifty dollars.

*The B. S. degree is no longer conferred in the College of Arts and Science. This scholarship is now awarded to a candidate for the A. B. degree.

"*Fourth.* The College of Law, for the degree of LL. B., fifty dollars.

"*Fifth.* The College of Medicine, for the degree of M. D., fifty dollars.

"*Sixth.* The College of Engineering, for the degree of B. S. in C. E., fifty dollars.

These Scholarships are intended as a recognition of merit and character in the beneficiaries, and shall be payable on the first day of June of each year to that member of the *Junior class,* in each of the Colleges designated, who shall be adjudged entitled to it by the President and Faculty; and the names of the persons receiving said Scholarships shall be publicly announced on Commencement Day by the President of the University.

"In according these Scholarships, it is earnestly impressed upon the President and Faculty of the University, that in the mind of the donor, purely intellectual and literary ability are not alone to be considered, but that the moral character of the contestants should be regarded as a factor of no small weight in coming to a decision.

"With the earnest hope that, by the means here provided, worthy young men and women may in all coming time be helped and encouraged in their struggle toward a higher life and a greater usefulness, this fund is committed to the honor and good faith of the State, whom the Board represents, and by whose authority the donation is made and accepted."

CURATORS' SCHOLARSHIPS.

1. Honor Graduates of Secondary Schools:

By order of the Board of Curators, the student who attains the highest rank in the graduating class of any Fully Accredited School will be permitted to enter the College of Arts and Science or the College of Agriculture and Mechanic Arts, and the Department of Engineering, without the payment of the first year's entrance, library, and incidental fee, provided the certificate be presented within two years from date of graduation.

The following students were admitted during the session of 1906-07 under this provision:

Fay Elizabeth Jarman.....Unionville High School
Harrison Weaver.....Windsor High School
Mary Matthews.....Columbia High School
Alfred Nolle.....St. Charles High School
Herbert Warren Smith.....Vandalia High School

Edith W. Geery.....Warrensburg State Normal
James Percy Bennett.....Harrisonville High School
Mary Springs.....West Plains High School
Nellie Barman.....Savannah High School
Anna E. Garrett.....Pierce City High School
Helen Ross.....Independence High School
Myrtle Longmore.....Sedalia High School
Walter W. Wobus.....Washington High School
Leo R. Sack.....Greenville, Mississippi, High School
Charles A. Epperson.....Macon City High School
Ada Rudd.....Jefferson City High School
Count Harvey.....Columbia Normal Academy
Henry Sheppard.....Rich Hill High School
Mattie C. Meritt.....Montgomery City High School

a. Debating and Essay:

In accordance with a practice recently established, annual Inter-High School Contests in Debating and Reading or Reciting of Essays will be held on the first Saturday in May, at the University of Missouri, in Columbia, between representatives of the Fully Accredited Public High Schools of Missouri. "The winner of each contest shall be entitled to an Undergraduate Scholarship of the value of $125 and exemption from all fees, except laboratory fees, such scholarship to be paid in installments during the student's first year in the University."

The following regulations governing the contests and the award of the scholarships have been adopted by the Board of Curators:

"1. *Scope of Contests.* The contest between the boys shall be in debate, and that between the girls shall be in the reading or reciting of essays, the subject for debate to be assigned by a University committee, and the subjects for essays to be selected by contestants; the subject of an essay shall be submitted to the committee not less than one month previous to the contest in Columbia.

"2. *Time.* The contests shall be held on or near the last Saturday in April of each year, the exact date to be determined by the University committee.

"3. *Contestants.* Each school entering the contests may send one representative to each contest, i. e., one boy and one girl, the contestants to stand among the highest fourth of the senior class in general scholarship. (Only Accredited Public High Schools may send representatives.)

"4. *Preliminary and Final Contests.* Each contest shall be divided into a preliminary and a final contest:

(A) Preliminary contests shall be held during the day of the date announced, in the presence of competent judges appointed by the University committee. The judges shall select from each contest not more than six contestants, who may compete in the final contest.

(B) Final contests shall be held during the evening of the date announced, in the presence of other competent judges similarly appointed, and shall be limited to the successful contestants of the preliminary contests.

"5. *Length of Speeches and Essays.* No speech shall exceed eight minutes in length, and no essay shall contain more than one thousand words. This length may be reduced by the committee so far as the preliminary contests are concerned. Details of arrangements shall be left to the committee.

"6. *The Limit of Entrance.* Each high school desiring to compete shall notify the Chairman of the University committee not less than ten days before the contests of its intention to enter the competition, and at the same time shall submit the names of its representatives.

"7. *High School Preliminaries.* The method of selecting the representatives shall be left to the school principals concerned, but the University advises that preliminary contests be held in each high school as a means of determining who shall represent it. Every representative must bring to the University committee written credentials from his or her school principal."

The subject for Debate in 1908 is: *"Resolved,* That a law should be enacted requiring all school districts in Missouri to furnish text books to pupils free of charge." The subject for debate in 1909 will be announced later in a special circular.

The subjects of Essays may be selected by the contestants, subject to the approval of the University committee. See regulation 1 above.

It is hoped that this movement on the part of the University will tend to foster an interest among the high school students of the State in questions of current interest and in the correct expression of thought. The committee will gladly answer any inquiries from teachers or students who are interested. The committee consists of Isidor Loeb, J. L. Meriam, and John R. Scott.

3. Masonic Home of Missouri, and Odd Fellows' Home:

Free Scholarships in the College of Arts and Science are offered to such students from the "Masonic Home of Missouri," at St. Louis,

and the "Odd Fellows' Home," at Liberty, as may be prepared to enter the University.

4. Missouri College Union, Honor Graduates:

The student attaining the highest grade, or who shall be first in merit, in taking the degree of A. B., B. S., or B. L., in the graduating class of any of the universities or colleges composing the Missouri College Union, will be admitted to this University for the first year without payment of any tuition, library, or incidental fee. The Missouri College Union is now composed of Washington University, Westminster College, William Jewell College, Drury College, Central College, Missouri Valley College, St. Louis University, Park College, Tarkio College, and the University of Missouri.

BUILDINGS AND EQUIPMENT.

Location:

The University of Missouri is located near the center of the State in Columbia, a town of about 8,000 inhabitants, situated half way between St. Louis and Kansas City.

It is conveniently reached from the east, north and west by the Wabash Railroad and connecting lines. The Missouri, Kansas and Texas Railroad affords a direct route to Columbia to persons living on that line, and to those living on the Missouri Pacific, St. Louis and San Francisco, and Kansas City, Fort Scott and Memphis Railroads.

The surrounding country is elevated, well drained and diversified. It is a limestone region, remarkable for its healthfulness. The University campus includes 32 acres of undulating ground in the southern part of town. The Experiment Farm lies one square south of the Campus, and comprises 648 acres. The Horticultural Grounds (a part of the Farm) are one square east of the Campus and include about 30 acres.

Buildings:

The University has the following buildings:

On the Campus—Academic Hall, separate buildings for Agriculture, Chemistry, Engineering, Geology and Zoology, Law, Mechanic Arts, and Medicine, the Parker Memorial Hospital, the Laws Observatory, the Power House, the President's House, and Benton Hall and Lathrop Hall—two dormitories for men; on the Farm—the Agricultural Farm buildings and the new Live Stock Judging and Dairy Buildings, a stone Cattle Barn, the Farm Machine Building, the Dean's

Residence and the Power House; on the Horticultural Grounds—the new Horticultural Building, Greenhouses, and Read Hall, the new dormitory for women; on the Atheltic Grounds, the Rothwell Gymnasium for men.

Laboratories and Museums:

Laboratories. Facilities for practical instruction in the sciences are provided in the following laboratories: Agricultural Chemistry and Experiment Station work, Agronomy, Animal Husbandry, Anatomy, Astronomy, Bacteriology, Botany, Chemistry, Dairy Husbandry, Engineering (Civil, Electrical, Sanitary and Mechanical), Entomology, Experimental Psychology, Geology and Mineralogy, Horticulture, Internal Medicine, Pathology, Pharmacology, Phonetics, Physics, Physiology, Physiological Chemistry, Surgery, Veterinary Science, Zoology, and Farm Machinery Laboratory.

For the further equipment of laboratories the Forty-fourth General Assembly appropriated $20,000, in addition to several special appropriations.

Museums. There are museums of Agriculture, Classical Archaeology, Ethnology, Geology, Mathematics and Zoology.

Shops:

The shops of the University are the following: A forge shop, a pattern shop, a carpenter shop, each equipped to accommodate sections of twenty-four students each, and a machine shop equipped to accommodate sections of ten students each. Recent additions have been made to the equipment of these shops in the form of speed lathes, vises and small tools.

Drawing Rooms:

Rooms are provided for Freehand Drawing, Mechanical Drawing, and for special drawing in Civil, Electrical and Mechanical Engineering.

Dormitories:

The University has two Dormitories for men and one for women. For detailed information concerning these Dormitories and the boarding clubs connected with them, see page 104.

THE LIBRARIES.

The libraries of the University are the General library, including the several collections in the Seminary rooms for students in the classics, the historical and political sciences, and the Romance languages; the Law library; the Medical library; the Engineering library;

the Agricultural library; the Experiment Station library; and the collections in the Observatory, the Hospital, the Horticultural, Chemical, Geological, and Zoological buildings; the Lathrop collection in Academic Hall; and the library of the School of Mines at Rolla. They contain in the aggregate about 110,000 volumes and pamphlets. 1040 periodicals are currently received.

The library has been enriched within the last few years by the gift of Senator George Graham Vest, who presented the library with the large collection of government documents which he made during his twenty years service at Washington; by the gift of Honorable Gardiner Lathrop, president of the Board of Curators, of one thousand dollars for a department library to be known as the "John H. Lathrop Library of English and American Literature," and by the gift of Senator F. M. Cockrell, who presented the library with 413 volumes and 244 pamphlets of government documents.

Books and periodicals may be drawn by all officers and students of the University and by others having special permission. The reading room will seat 175. Seminary rooms such as the political science room are provided for advanced students where work may be pursued with little interruption and with the necessary books at hand. The library is open 12½ hours a day for consultation during the academic year, except Sunday, when it is open from two to five p. m. During the Summer Session the library is open eight hours daily except Sunday. The library is closed on important legal holidays.

Students have access to the collections of the State Historical Society also, which contains 40,000 volumes and pamphlets. This library is open seven hours a day, except Sundays and legal holidays.

The Law library occupies rooms on the first floor of the Law building. The collection consists of 13,000 volumes, and the room is open nine and a half hours daily, except Sunday.

The Medical library is shelved in the Medical building and is open seven and a half hours daily, except Sunday. The collection consists of 2,832 volumes.

The Engineering library is shelved in the Engineering building and is open seven hours daily, except Sunday. The collection consists of 2,421 volumes.

The Agricultural library is on the second floor of the Agriculture building and is open seven and a half hours daily, except Sunday. The collection consists of 2,263 volumes.

The Experiment Station library is also shelved in the Agriculture building and contains 1,900 volumes.

The other collections, shelved in the various laboratories, are accessible at certain hours daily, except Sunday. The collections are small, but have been selected with special reference to the needs of students in these various laboratories.

The library of the School of Mines at Rolla is open twelve hours daily, except Sunday. It occupies rooms in Norwood Hall.

PHYSICAL TRAINING AND ATHLETICS.

Men's Gymnasium:

Rothwell Gymnasium is a new handsome stone building costing sixty-nine thousand dollars. The bathing and locker rooms are very commodious. Adjacent to this building is located an Out-Door Gymnasium, one hundred by two hundred feet in size, where all systematic work is taken during good weather.

Women's Gymnasium:

A large airy room adjoining the Ladies' Parlor in Academic Hall has been set aside for the women's gymnasium, and well equipped with necessary apparatus. The locker room contains lockers arranged in small groups attached to individual dressing booths. The bath rooms contain eight porcelain tubs and four marble stalls equipped with needle showers. A temporary Out-Door Gymnasium has been arranged for spring and fall use. The women have tennis courts, hockey fields, etc., for their private use, built around the future site of the women's Gymnasium.

The Golf Links:

A beautiful nine-hole Golf Course owned and supported by the University is open to the Faculty and all men and women students free of charge.

Main Athletic Field:

Surrounding the Gymnasium, the University is constructing a series of play fields and courts for the use of all students for physical training purposes. Already there has been completed five play fields for team games such as Football, Baseball, and Lacrosse. A series of four out-door Basket Ball Courts; four Hand Ball Courts; and fourteen Tennis Courts.

Besides these practice fields there is a Varsity field equipped with a quarter-mile oval and a two-twenty yard straight-away cinder track. In this oval is a field for football, baseball, lacrosse and basketball,

etc., and at one end three tennis courts. This field is equipped with two grand stands. On it all contests take place. In recognition of the generosity of members of the Rollins family, in the construction of the field, it has been named by the Curators "The Rollins Athletic Field."

For Required Work, see page 89.

ORGANIZATION AND GOVERNMENT.

Organization:

The University Council consists of the President, Deans, Professors, Assistant Professors in all the Departments of the University and the Chairman of the Committee on Student Affairs, the Adviser of Women, and the Librarian. It is the highest organized body of the Faculty. Each Department, School, or College of the University has its special Faculty, consisting of the Dean, the Professors and some other teachers who give instruction in it.

The President is the executive head of the University, and is a member of all the Faculties.

The University Assembly:

From 10 to 11 a. m. Tuesdays and Thursdays there is an assembly of students and faculty in the auditorium. The purpose of this assembly is to broaden and advance the intellectual, social and religious life of the students. It serves also to bring together students of all departments, and thus arouse and keep alive university spirit.

Religious Exercises:

Religious exercises are held in connection with the Assembly, attendance being voluntary. They ordinarily consist of sacred music, a reading from the Scriptures, prayer, and address by some minister or clergyman. These exercises are made as attractive and beneficial as possible. During the year distinguished preachers of various churches are invited to deliver sermons before the University on Sunday evenings.

In Columbia there are churches of nearly all the prominent denominations. The University advises its students to attend regularly the services at the churches of their parents. The students maintain an efficient chapter of the Young Men's Christian Association, and one also of the Young Women's Christian Association. (See pp. 111-113). The University exercises much moral and religious influence, but is non-sectarian.

Provisions for Young Women:

All Departments of the University are open to women, except that of Military Sciennce and Tactics. In the lecture room, they receive the same instruction and meet the same intellectual requirements as the men. The women students have the use of a special suite of five rooms, in Academic Hall, admirably equipped for health and comfort and presided over by a Matron. One of these rooms is fitted up as a gymnasium, and is under the control of the Instructor in Athletics in the Women's Gymnasium. During lecture hours, the young women that are not attending lectures are expected to be in their waiting rooms, or in the University Library, or in their respective homes.

The Adviser of Women of the University stands to the women students of the University for what her title indicates. She is at all times ready to consult with them on any matter concerning their welfare. She exercises a general supervision over all houses where women students live, and the latter, before engaging rooms in boarding houses or in private families, must first make sure of the approval of the Adviser of Women. Women students change rooms only with her consent. Her office is in Read Hall.

For details concerning Read Hall, the Dormitory for Women, see page 106 of this Catalogue.

The sorority houses have, in general, the same house customs as Read Hall.

Discipline:

In the government of the University, the President and the Faculty rely chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly, to live morally, and maintain good behavior. The removal of those who fail to meet these requirements is demanded in the interest of the University. Students are under the direct supervision of the University only when on the Campus, but they are responsible for their conduct wherever they may be.

EXPENSES.

Fees and Deposits:

Students in the College of Arts and Science, in the Teachers College, in the School of Agriculture, in the Department of Engineering, and in the Summer Session pay a library and incidental fee of $5.

Students in the Department of Law and in the first and second

year courses of the Department of Medicine (regular or special) pay an entrance fee of $10 a year.

Any student who takes any work whatsoever in Law or Medicine must pay the full fee of the Department.

Every student who applies for admission to the University after the first week of the semester in which he seeks admission shall pay a fee of $5 for late registration in addition to the fees already provided for.

State Cadets in the College of Arts and Science, in the Teachers College, in the School of Agriculture, and in the Department of Engineering, who receive and file their appointments before matriculation, pay no library and incidental fee, but make all of the laboratory and other deposits required of other students.

Graduate students in any department of the University, except assistants and teachers in the University of higher rank, pay a library and incidental fee of $5, and make all of the usual deposits.

No student will be enrolled in the Graduate Department, unless he is taking work which may count toward a graduate degree.

The student who has attained the highest rank in the graduating class of any fully accredited school will be permitted to enter the College of Arts and Science, the School of Agriculture, the Department of Engineering or the Teachers College without payment of the library and incidental fee for the first year, provided the certificate be submitted within two years after graduation. See Curators' Scholarships, page 94.

No part of the library and incident fee is refunded for withdrawal except by special order of the Executive Board.

Students entering a laboratory are required to make a deposit of $5. From this amount there is deducted a fixed charge (in no case less than $1, for each individual laboratory course), and also all charges for materials used or for damages to or loss of University property. If the deposit is insufficient to cover all such charges, the student is required to make an additional deposit or deposits. When damage or loss is suffered by a laboratory, it is assessed against the deposits of the students using the laboratory at the time of the damage or loss, unless such damage or loss can be traced to some individual student or students. The remainder of any deposit, after payment of all charges, is refunded to the student at the end of his laboratory course in any session.

Laboratory deposits, and rent of rooms in the dormitories, must be paid to the Secretary of the University; all other fees must be

paid at the Boone County National Bank, to the Treasurer of the University.

Students who by reason of sickness enjoy the privileges of the Hospital will be charged a reasonable amount therefor. See an announcement of the Hospital in this Catalogue.

All fees must be paid in advance.

Dormitories:

Dormitories for Men, and University Dining Club. The two Dormitories for men, Benton Hall and Lathrop Hall, lodge about 140 students, and meals can be furnished by the University Dining Club, which is established in Lathrop Hall, to about 400.

Each room in Benton Hall is furnished with two single iron bedsteads, a table and two chairs, a wardrobe, a bookcase, and a chiffonier. Each room in Lathrop Hall has a closet and is furnished with two single iron bedsteads, a table and two chairs. The occupants are expected to supply whatever else they deem necessary. The rooms are lighted with electric lights. The buildings are provided with a good system of steam and hot air heating and ventilation, and with closets and bath rooms.

Only two students are allowed to occupy one room, except with the consent, specially given, of the Executive Board; and when three thus occupy one room, each must pay full room rent.

In these two halls, the estimated cost of room rent, table permits and board varies, according to the room, from about $2.75 to about $3.25 a week.

The following charges are made by the University:

a. Room rent varies from $23 to $35 for a session of 38 weeks for each student, according to the location of the rooms. It includes the attention of servants.

b. The fee for dining-room permit is $19 a year.

Students who enter before October 15 will be charged the full amount. After October 15 a pro rata will be charged plus ten per cent of the pro rata.

c. A *caution* deposit of $3 is made by each student who rents a room for the regular session, as security against damage to or loss of University property. A deposit of $5 is made by each student who receives a dining room permit. This deposit is refunded at the close of the student's connection with the Dormitories or Club, provided all charges made against him by the University for such damage or loss has been paid in full.

The room rent and caution deposit are payable on or before the first of September to the Secretary of the University.

Students in the Summer Session who rent rooms in dormitories are charged one-third the rent of rooms for the regular session, and fifty cents a week for the time he takes his meals at the Club All such students must make a caution deposit of $5, which is returned at the close of the term, if no damage has been done to University property, excepting $1, which will be retained and applied in payment of the Matron's salary.

Students in the Short Course in Agriculture who rent such rooms in the dormitories as are vacant at the time of their entrance are charged therefor in the proporton which the length of their course of instruction bears to the entire session. Such students are charged $4.75 for a meal permit for the term of the course.

Board in the Dining Hall for men is managed by the University Dining Club, an organization of students who elect their own President and their Councilmen. The Matron and General Manager of the Club are appointed by the Executive Board. This organization levies and collects all assessments; buys its own provisions; and thus regulates it own expenses.

The Club charges each student an initiation fee of $1. This fee is also required of students in the Short Course in Agriculture. Students and teachers of the University and students of the Teachers College High School may take meals at the Dining Hall upon payment of $19 for a dining-room permit.

On no account will any person without a permit from the Secretary of the University be allowed board at the Club.

No part of the amounts paid for room rent or dining-room permits is refunded when students sever their connection with the Dormitories or Clubs, but with the consent of the Secretary of the University they may rent their rooms or assign their permits to others.

Order in the Dormitories for men is maintained by Monitors, appointed by the Curators, who report any disorder to the Dormitory Board. This Board consists of the chairman of the Committee on Student Affairs, the Secretary of the University, and such other persons as may be named by the Executive Board. In the renting of rooms in the Dormitories preference is given to residents of Missouri until September 6 of each year. After that date

vacant rooms will be rented to first applicants. No one may occupy a room in the men's dormitories for more than four years.

The University reserves the right to make changes in the rates given above before the opening of the next session.

As the accommodations of the Dormitories are limited, it is necessary for students who wish to engage rooms to make early application for them; they are generally all engaged before the opening of the college year. In order to reserve a room it is necessary to make a deposit of $5, which will be credited on the room rent when paid. The rooms are assigned in the order of application, and requests for them must be made to J. G. Babb, Secretary of the University.

Dormitory for Women. Read Hall, the new Dormitory for women, was opened September, 1903. This hall lodges twenty-eight young women. The dining-room can accommodate twenty-five additional day boarders. The rent of rooms varies from $45 to $75 a session (38 weeks) for each occupant, according to the location of the room. The cost of table board alone is $3.75 a week. These prices are subject to changes on account of the increase in cost of living. Read Hall is under the management of the Adviser of Women. The customs are such as would be found in any refined home. Read Hall is felt to be the social center of all the women students of the University.

Women before securing board even in private families must first consult the Adviser of Women. They change boarding places only with her consent.

Private Board and Lodging:

Board and lodging in private families may be had for from three to five dollars a week. Private clubs also are formed in which the average cost is three dollars a week. The rent of rooms is from seventy-five cents to one dollar and seventy-five cents a week for each student.

Regulation of Boarding Houses. The University reserves the right to prescribe the rules under which its students shall board in private families, Dormitories, and Chapter Houses, or elsewhere, whether these rules are or are not published in the Annual Catalogue.

The University Co-Operative Store:

For eight years, the students of the University have maintained a co-operative store for the purpose of selling to themselves books, stationery and general supplies at reasonable prices.

No attempt is made to "cut" prices below those ordinarily charged in those places where some competition exists in this business, but the profits made after the expense of maintenance and operation are paid, are divided among the student stockholders in proportion to the amount of their individual purchases made during the year. Any student of the University may become a stockholder (and is thereby entitled to a share in the profits of the store) by purchasing one share of stock at a cost of one dollar; the ownership of this share entitles him to the privileges of membership so long as he is a student of the University. None but students are entitled to share in the profits of the store, and in no case may any officer or teacher of the University or any one not a *bona fide* student participate in such profits. The capital of the store is provided by the amount received from the sale of stock and a small surplus added annually. In the past the store has regularly paid an annual dividend of 10 per cent to its shareholders, who comprise a large portion of the student body. In other words, shareholders have been able to purchase everything at the store at ten per cent less than the lowest prices ordinarily charged for books, stationery and students' supplies in general. The advantages to be derived by a student through owning a share in the store and making his purchases there is readily apparent. The management of the store is under the control of a Board of Directors (elected by the stockholders from among the students and faculty) and of a manager chosen by this Board. The popularity of the store as a student institution is best shown by the fact that last year its total sales amounted to over fifty thousand dollars. The store is conveniently located in the main building of the University and is easily accessible to the students at all times.

MEDALS AND PRIZES.

The Laws Astronomical Medal:

The "S. S. Laws Astronomical Medal" is offered annually at Commencement to the student who stands highest in Astronomy, and has at the same time attained a high average of general scholarship. An original thesis written on some astronomical subject, and showing capacity for scientific investigation, is required.

Dachsel Prize:

Ten dollars in money, by the late Charles Dachsel, engineer of Jefferson City, Mo., is awarded for the best thesis on the Steam Engine.

McAnally Medal:

The McAnally Medal is offered for the best essay, thesis, or poem by a member of the Senior class, competing under certain rules laid down by the founder of the prize. Subject for 1908-09, "John Greenleaf Whittier."

Law Prizes:

The Edward Thompson Company, Law Publishers, of Northport, New York, give annually to the author of the best thesis submitted by a member of the graduating class a prize consisting of a complete set of their famous American and English Encyclopedia of Law, 2d edition. This set consists of thirty-two volumes, and is valued at $240.

The American Law Book Company, of New York City, gives annually a set of up to date publications of the "Cyclopedia of Law and Procedure," now 28 volumes, to the student, who, in the opinion of the Law Faculty, has made the best progress during his Senior Year. All candidates for this prize must have been resident students for at least two years.

Hon. J. V. C. Karnes, Kansas City, Mo., gives the sum of fifty dollars ($50.00), to be awarded to that student of the Senior or Junior class who shall submit the best thesis upon some subject within the domain of Legal Ethics.

Military Prizes:

The Curators have provided a silver cup to be awarded each year to the best drilled company.

A gold medal is usually given annually to the best drilled private, and a target medal to the best marksman.

Stephens Medal:

Founded by the late Hon. James L. Stephens, of Columbia, and annually awarded for the best oration by a member of the Senior class. The prize consists of a book in defense of the Christian religion, and a gold medal, for the purchase of which the annual interest on $500 is available.

William J. Bryan Prize:

Established by the Board of Curators through a generous donation by the Hon. W. J. Bryan of Lincoln, Nebraska. The prize consists of $17.50 in money or a medal of equivalent value, at the option of the successful contestant, and is awarded for the best essay on some subject pertaining to the Science of Government. In 1908-09 the William J. Bryan Prize will be awarded for

the best essay on "the Position and Powers of the Speaker of the National House of Representatives," under the following conditions:

1. Competition is open to all students of the University.
2. The essays submitted shall contain not more than 2,500 words.
3. They must be in the hands of the Registrar of the University not later than 12 o'clock noon, of the first Saturday in May.
4. Each essay shall be signed with a fictitious name and be accompanied with a sealed envelope containing the real name of the writer and bearing the fictitious name on the outside.
5. An essay which is awarded a prize shall become the property of the University and be deposited in the Library.

William S. Woods Prize:

Established by the Board of Curators through a generous donation by the Honorable William S. Woods, of Kansas City, Missouri. The prize consists of $50 in money and is awarded for the best essay on some subject pertaining to the history, people, or products of Missouri. In 1908-09 the William S. Woods Prize will be awarded for the best essay on "Hamilton R. Gamble and the Provisional Government, 1861-64," under the following conditions:

1. Competition is open to Juniors of all Departments of the University. (The Committee on Graduation of Each Department decides on the eligibility of competitors.)
2. The essays submitted shall contain not more than 5,000 words, and they must be type-written.
3. They must be in the hands of the Registrar of the University not later than 12 o'clock noon, of the first Saturday in May.
4. Each essay shall be signed with a fictitious name and be accompanied with a sealed envelope containing the real name of the writer and bearing the fictitious name on the outside.
5. An essay which is awarded a prize shall become the property of the University and be deposited in the Library.

Nelson C. Field Prize:

An annual prize of $100 for the best poem submitted by a student in the College of Arts and Science. Typewritten copies of work submitted, signed with a fictitious name and accompanied with a sealed envelope containing the real name of the writer, must be dropped into the office box of the English Department (Room 35, Academic Hall), not later than May 1.

SOURCES OF AID TO STUDENTS.

The Rollins Aid Fund:

Anthony W. Rollins, M. D., an honored citizen of Boone county, father of the Hon. James S. Rollins, dying in 1845, left by his will the sum of $10,000 in trust for the purpose of educating such indigent youths of Boone county, both male and female, as might be unable to educate themselves. Three-fourths of the annual interest on the fund, according to the directions of the donor, is to be devoted to the education of the youths of Boone county, and the remaining one-fourth is to be added to the interest-bearing principal. The fund amounts now to about $50,000. The President of the University is required, at each Commencement, to invite the citizens who may be present to subscribe for the enlargement of this fund. The beneficiaries of this charity are annually selected by the President of the University from the indigent youths of Boone county, male and female. In compliance with the wishes of the donor, the selection is made with reference to the moral as well as the intellectual qualities of the youths inclined to avail themselves of the advantages of the fund, preference being given, in the selection of boys, to such as evince an inclination to preach the gospel.

Applications for aid from the Rollins Aid Fund must be in writing; a blank form will be furnished by the Secretary of the University, with whom it must be filed after it has been filled. The applicant must appear in person at the opening of the first semester, September 14, as no reservation will be made. No application should be made, or will be received, unless the applicant has been duly admitted to the University by the Commitee on Entrance.

Cadetship:

The Governor may appoint ten cadets at large, and each Senator and Representative of the General Assembly of Missouri may appoint three cadets each year from his district. For further information, see announcement of the Missouri State Military School, this Catalogue.

COMMITTEE ON RECOMMENDATIONS.

A committee of the University Council, composed of representatives of all Departments of the University, collects information

regarding openings for professional and business employment and recommends students and graduates who may be fitted to fill them. The Alumni Recorder is Secretary of this Committee.

SOCIETIES.

Literary and Scientific:

There are connected with the University at Columbia 18 societies for students—the "Graduate Club," the "Athenaen," the "Union Literary," the "Bliss Lyceum," the "Medical Society," the "Agricultural Society," the "Missouri State University Debating Club," the "New Era Debating Club," "Der Deutsche Klub," the "Sketch Club," the "Zoological Field Club," the "English Club," the "Asterisk Club," the "Engineering Society," "Chemical Society," "Branch of the American Institute of Electrical Engineers," the "History Club of the University of Missouri," the "Mathematical Journal Club," and the "Chemical Journal Club."

Musical:

The students maintain a Military Band, Glee Club, Carol Club, Mandolin and Guitar Club, Piano Club, and Violin Club. Outside of the Military Band, which is immediately attached to the school of Military Science and Tactics, all the Musical Clubs are open to men and women with even moderate musical gifts and who are desirous of cultivating the same.

Young Men's Christian Association:

The object of this organization, which dates its existence in the University from January 18, 1891, is the same as in other institutions of learning, namely, the union of Christian students for Christian work. For the past six years, the Association has been growing in strength, until now it is by far the largest college association in the State, employing a General Secretary, who gives all his time to the work. Its membership is composed of men representing all phases of college life—athletics, debate, journalism, music, and others.

A meeting is held every Sunday afternoon, which is addressed from time to time by professors and prominent men from Columbia and other cities. The Association conducts a mid-week prayer meeting. This year over 200 men are enrolled in Bible Classes, following courses based on daily study. These classes are led by students.

The Association is at present engaged in an effort to erect a

$50,000 Association building on a lot owned by the Association, at the north entrance to the Campus. As this catalogue goes to press, $15,000 more is still needed for finishing and furnishing the building. A state university is a strategic point for religious work, and there are few ways in which one could make a better use of money than by contributing to the erection of this structure.

At the beginning of each scholastic year, a committee of the Y. M. C. A. meets students at the trains and freely renders them assistance by securing board, by introducing them to friends and to officers of the University, and by various other acts of kindness. A letter sent in advance to the General Secretary of the Young Men's Christian Association, Columbia, Missouri, will receive prompt attention.

An employment bureau is maintained for the purpose of securing work for those students who find it necessary to pay their expenses, in whole or in part, by their own earnings. Over $5,000.00 worth of work has been furnished students this year. The Bureau guarantees no one a position, but tries to help all who apply. Those who desire help of this kind should write to the General Secretary of the Young Men's Christian Association before coming to Columbia.

Young Women's Christian Association:

The Association was organized April 2, 1891, and now has enrolled more than 315 members. The strongest all-around women students are among its members. It has its headquarters in Academic Hall, and employs a General Secretary, who devotes all her time to furthering the interests of the Association. The object of the organization is the four-fold development of the University women—physical, social, mental, and spiritual. Since the University provides the equipment for women's physical and mental development, the Association devotes itself more especially to the social and religious sides. It strives by receptions and other entertainments to bring the women together and further a wholesome and attractive social life. Religious meetings are held every Thursday at 4:00 p. m., to which all women, whether members of the Association or not, are urged to come and share in the enjoyment and help received from the consideration of subjects bearing upon the life of women students. Classes in the study of Bible and mission courses are important features of the Association work, and each year many women derive intellectual and spiritual benefit from them. The Association conducts an employment department.

Last year it helped 25 girls to find both steady and odd work. The Y. W. C. A. is the only organization in the University which brings all the women students together, fostering good feeling and fellowship, and is worhy of their hearty support.

THE ALUMNI ASSOCIATION.

The Alumni Association is composed of all graduates and former students of the University. It holds an annual meeting ou Tuesday afternoon of Commencement week, and is addressed in the Auditorium by an orator who is a graduate of the University. The annual Alumni Banquet is one of the most important events of Commencement week.

The object of the Association is the promotion of education, especially in the halls of Alma Mater, the reunion of early friends and co-laborers, and the revival of those pleasant feelings which entwine themselves about University life.

The officers of the Association are: C. M. Jackson, President, Columbia; H. W. Loeb, First Vice-President, St. Louis; J. C. McKinley, Second Vice-President, Unionville; Merrill Otis, Secretary, Columbia; and S. F. Conley, Treasurer, Columbia.

In accordance with the revised Constitution of the Alumni Association, local Alumni Associations have been organized in fifty Counties of Missouri, as well as in many places outside the State. (April 19, the birthday of James S. Rollins, "The Father of the University," has been designated "University Day," to be celebrated annually by local meetings of the Alumni everywhere. Very successful meetings are held in many places on this occasion.

In December, 1906, an Alumni Directory was issued. This Directory contained an alphabetical, a geographical, and a class register of all the graduates of the University. It was mailed to all alumni. Since September, 1906, the University News Letter, published monthly, has been sent to graduates of the University. An Alumni Magazine, "The Missouri Alumni Quarterly," under the exclusive control of the Alumni Association, is published and is devoted entirely to the interests of the Alumni and of the University.

The University has set apart an Alumni Room for the use of graduates and former students, which has been beautifully fitted up out of a fund created by an appropriation by the University and by subscriptions of the local alumni.

STUDENTS' PERIODICALS.

The students maintain and manage five periodicals. These are the *Independent* (weekly) the *Savitar* (annual), *The Missouri Agricultural College Farmer* (monthly), the *Asterisk* (quarterly), and the *Engineering Quarterly.*

STUDENTS' PROTECTIVE ASSOCIATION.

The Students' Protective Association is an organization of students that provides for hospital care in case of sickness. The members of the organization pay a fee of two dollars, and the fund thus raised is used to pay the expenses of members who enter the Hospital as clinical patients. The organization is under the control of a Board whose membership is chosen from the Board of Curators, the Faculty and the Student Body. Students are advised to join the Association.

DEPARTMENTS OF THE UNIVERSITY.

THE UNIVERSITY COMPRISES THE FOLLOWING DEPARTMENTS:
GRADUATE DEPARTMENT.
COLLEGE OF ARTS AND SCIENCE.
TEACHERS COLLEGE.
COLLEGE OF AGRICULTURE AND MECHANIC ARTS, EMBRACING,
A. *School of Agriculture.*
B. *Experiment Station.*
DEPARTMENT OF LAW.
DEPARTMENT OF MEDICINE.
DEPARTMENT OF ENGINEERING.
DEPARTMENT OF JOURNALISM.
SCHOOL OF MINES AND METALLURGY (AT ROLLA).

GRADUATE DEPARTMENT.

General Statement:

The University of Missouri offers graduate instruction in the College of Arts and Science, Teachers College, School of Agriculture, and Department of Engineering. The graduate work in the College of Arts and Science is under the direction and control of the Graduate Conference of that Department. The graduate work of the other Departments is under the direction of the respective Faculties.

Admission:

Graduates of the colleges and universities comprising the Missouri College Union and of other reputable colleges and universities, and (in exceptional cases by special permission of the Faculty) other persons of liberal education are admitted to such graduate work as they are prepared for. Admission to the Graduate Department, however, shall not be understood as implying admission to candidacy for advanced degrees, which is subject to the regulations indicated below.

Persons desiring to pursue graduate work in the College of Arts and Science are admitted by the Chairman of the Graduate Conference of that Department. In other departments graduate students are admitted by the respective Deans.

University Fellowships and Scholarships:

The University offers annually a number of University Fellowships yielding stipends of $250, and University Scholarships with stipends of $150. University Fellows and Scholars are exempt from payment of tuition and of all fees and deposits in the subjects in which they hold fellowships and scholarships. These exemptions increase the value of the fellowships and scholarships by at least $200 when comparison is made with those in institutions which require the payment of high tuition fees. These fellowships and sholarships will be awarded to the applicants who are best prepared and are of the highest promise in scholarship, irrespective of the lines of work they may desire to pursue. It is expected that fellows and scholars will be prepared for graduate work in the subjects which they elect, and that they will devote themselves mainly to work in this subject. They will do no teaching, but may be called upon to render a limited amount of service to the University in other ways. University Fellows and Scholars are allowed to engage in outside work only with the consent of the Dean of the Department, and of the Professor of the subject which they elect. The Executive Board, upon the recommendation of such Dean and Professor, may deprive any student of his fellowship or scholarship, whenever it may appear that he is not devoting himself as he should to his work as a fellow or scholar. Applications must be filed not later than April 1, in order to receive consideration in the award for the next Academic year. Applications received after this date and not later than June 1 will be considered in filling any vacancies which may occur in the fellowships or scholarships. Application blanks may be obtained from the Registrar of the University, and when filled out should be sent to the President of the University, Columbia, Mo.

Missouri College Union Scholarships:

The University offers annually a number of Graduate Scholarships in the College of Arts and Science to the graduates of the colleges comprising the Missouri College Union. The award of these scholarships is subject to the following regulations:

1. A graduate scholarship in the College of Arts and Science is established for each of the colleges composing the Missouri College Union.

2. The Faculty of each of said colleges shall be entitled to recommend for such scholarships, on or before March 15 of each year, the student graduating in that year, or in either of the two

years immediately preceding, who, in the judgment of the faculty, is best prepared to do graduate work.

3. The University will award a graduate scholarship for one year, with an annual stipend of $125, to each of the students recommended in the manner indicated above.

4. The holders of these scholarships shall be entitled to all privileges and exemptions, and shall be subject to all of the regulations which are provided for holders of University Scholarships.

Curators' Scholarships:

By order of the Board of Curators, the student who attains the highest grade, or who shall be first in merit, in taking a Bachelor's degree, in the graduating class of any of the colleges or universities composing the Missouri College Union, will be admitted to this University for the first year without the payment of any tuition, library, and incidental fee.

Publications:

The "University of Missouri Studies," the "Bulletin of the Laws Observatory" and a series of special publications are maintained as a means of publishing the results of original research in the University by instructors and graduate students.

Courses of Instruction:

The courses of study open to graduate students may be found under the several departmental announcements in this Catalogue. A special "Announcement of the Graduate Department for 1908-1909" may be obtained from the University Publisher, Columbia, Mo.

COLLEGE OF ARTS AND SCIENCE.

Regulations Governing the Degrees of Master of Arts:

The degree of Master of Arts is offered to students who have spent at least one year exclusively devoted to advanced courses of study, and who have submitted an acceptable dissertation and passed all prescribed examinations.

A student wishing to make application for the degree must fill out a blank form, provided for the purpose, and must present it to the Chairman of the Graduate Conference on or before October 1.

In order to be accepted by the Conference as a candidate for the degree, the student must give evidence that he has completed such a liberal undergraduate course of academic study as is offered by colleges of good standing, and that he has received a baccalaureate degree in Arts or Science equivalent to the baccalaureate degree of the University of Missouri.

In making application the student must indicate the subject of the dissertation and the course of study selected by him on the form referred to above, which must bear the signature of approval of the professor in charge of his major subject before it is presented to the Graduate Conference for its action. He may, however, defer submitting the subject of the dissertation to the Conference until November 1.

The candidate must choose a major subject, to which he must devote the greater part of his time during the year, and also such other subjects as may be approved. A majority of all work represented in the course of study must be selected from the groups designated as *Primarily for Graduates.*

A dissertation evincing capacity for original research and independent thought in the subject of the major work must be submitted to the Conference for approval on or before May 1.

The attention of students is called to the fact that graduate work can not be subjected to rigid regulation, and the Graduate Conference reserves the right to deal with each case on its individual merits.

With the approval of the professors concerned, such candidates as have fulfilled all requirements may, at the close of the year, be recommended by the Graduate Conference to the Board of Curators for the degree of Master of Arts.

Regulations Governing the Degree of Doctor of Philosophy:

1. *General Statement.*

The degree of Doctor of Philosophy is offered to students who have pursued advanced courses of academic study, without serious interruption, for a period of at least three years, and who have submitted an acceptable dissertation and passed all prescribed examinations.

In order to be accepted by the Graduate Conference as a candidate for the degree of Doctor of Philosophy, the student must give evidence that he has completed a liberal undergraduate course of academic study such as is offered by colleges of good standing, and that he has received a baccalaureate degree in Arts or Science equivalent to the baccalaureate degree of the University of Missouri.

The Conference reserves the right to decide in each case whether the antecedent training has been satisfactory, and, if any of the years of advanced work have been passed away from this University, whether they may be properly regarded as spent in university studies under suitable guidance and favorable conditions. Private study, or

study pursued at a distance from libraries and laboratories, will not be considered as equivalent to university work. In any case, the student must spend the year immediately preceding his final examinations in residence at the University of Missouri.

It should be emphasized that the requirements for this degree are not computed in terms of time and courses, but that the degree is conferred only upon such students as have reached, after long study, a high attainment in some special branch of learning, and have given the clearest evidence of their ability to carry on independent, original research by reason of having made an actual contribution to knowledge of a character approved by competent judges.

2. *Acceptance of Candidates*:

A student wishing to make application for the degree of Doctor of Philosophy must fill out a blank form, provided for the purpose, secure thereto the signatures of the instructors with whom he desires to take his major and minor subjects, and present it to the Graduate Conference for approval on or before October 1. He must also give satisfactory evidence of ability to translate French and German at sight.

3. *Requirements for the Degree*:

(a) Subjects of Study—Every candidate for the degree must select one principal or major subject, and at least one and not more than two subordinate or minor subjects, the combination to be approved by the Graduate Conference. The Instructor with whom the student is taking his major subject acts as his official adviser and has the general direction of his work.

The student's principal work must be in the major subject. Although no regulations are laid down with respect to the time to be devoted to the major and minor subjects, in general it may be stated that the major subject should represent two-thirds of the student's entire time.

(b) Dissertation.—The dissertation, embodying the results of original investigation, must be written upon a subject approved by the adviser, and must be submitted to the Conference, legibly written or typewritten, on or before May 1, when it becomes the property of the University. The student should consult the Chairman of the Conference for information regarding the form in which the dissertation must be presented.

Upon receiving the dissertation a committee is appointed, whose duty it is to report upon it in writing to the Conference.

The candidate is required to print or publish the dissertation, with such revision as the Conference may allow, and he shall pre-

sent one hundred and fifty copies of the work to the library of the University. The Conference shall take any necessary action to insure the publication of the dissertation within one year after the conferring of the degree. A brief biographical sketch of the writer must be appended to the dissertation.

(c) Examinations.—A committee, consisting of the professor of the candidate's major subject and the professors of his minor subjects, is appointed to take charge of all examinations, and to report upon the same to the Conference in writing.

In addition to final written examinations, the candidate may be required to take an oral examination in the presence of the Faculty.

The candidate may, with the approval of the professors in charge, take the examinations in his minor subjects upon the completion of his work in these subjects, but the final examination in the major subject can not be taken until the dissertation has been approved and accepted.

(d) Conferring of Degree.—Upon the satisfactory completion of all requirements, the candidate may be recommended by the Graduate Conference to the Board of Curators for the degree of Doctor of Philosophy.

Teachers College.

The conditions of admission to candidacy for the degrees of Master of Arts and Doctor of Philosophy are essentially the same as those laid down by the College of Arts and Science.

Before being admitted to candidacy for a Graduate Degree from the Teachers College, the student must give evidence of sound general knowledge of the history and theory of education, and must have had considerable experience in teaching.

All graduate students in the Teachers College, whether candidates for a degree or not, must make Education their major subject, but they may elect such related work as may be approved by the Head Professors of Education.

School of Agriculture.

The School of Agriculture offers the Graduate Degrees of Master of Science in Agriculture and Doctor of Philosophy.

Graduates of the School of Agriculture or of other schools of equal standing may be admitted to candidacy for Graduate Degrees.

Any graduate student in the School of Agriculture, before being admitted to candidacy for a Graduate Degree, must furnish to the Graduate Committee satisfactory evidence of fundamental knowledge

of the principles of Agriculture. This requirement will be adhered to, whether the student does his major and minor work in technical agricultural subjects or in other subjects offered in the School of Agriculture.

Candidates wishing to register in the School of Agriculture for a Graduate Degree should make their arrangements with the Graduate Committee which is charged with functions relative to the acceptance of candidates and arrangement for Graduate Work, in consultation with the Head Professors of those subjects in which the work is chosen.

Candidates for the degree of Master of Science in Agriculture are required to do one year's graduate work at the University. This work must consist of at least twelve (12) hours a week throughout the year. The courses selected must be graduate in character and must be approved by the Dean and the Graduate Committee. Not less than one-half of this work must be in a major subject and the remainder in one or two minor subjects.

An acceptable dissertation, embodying the results of research in the major subject, is also required. The completed dissertation must be typewritten and filed with the Graduate Committee at least three weeks before the candidate's graduation.

The conferring of the degree of Doctor of Philosophy is not dependent upon the fulfillment of a definite time requirement. Scholarly attainments are required in the case of candidates for this degree, particularly in power of independent investigation, which must be evinced by the production of a dissertation embodying the results of original research or productive scholarship of a higher order.

However, not less than three years of graduate study, in connection with proper library and laboratory facilities, are required. At least one year, immediately preceding the conferring of the degree, must be spent in resident work at the University of Missouri. The Graduate Committee shall determine, in the case of any candidate, what credit may be given for work done elsewhere. The candidate must give satisfactory evidence of his ability to read German and French.

The candidate is required to select a major subject for his principal work, and not less than one and not more than two minor subjects. No definite regulations are laid down as to the division of time between major and minor subjects, but in general the candidate will be expected to devote two-thirds of his time to his major subject.

The Head Professors of the Departments in which the candidate chooses his major and minor subjects shall take charge of his examinations and report the results to the Graduate Committee. An oral examination before the Agricultural Faculty may also be required.

Upon the satisfactory completion of work for an advanced degree, the candidate may be recommended by the Agricultural Faculty to the Board of Curators for the degree.

Department of Engineering.

The requirement for admission to candidacy for advanced degrees in Civil Engineering, Electrical Engineering, Mechanical Engineering and Chemical Engineering is the degree of Bachelor of Science in Civil Engineering, Electrical Engineering, Mechanical Engineering, or Chemical Engineering, respectively, from this University, or an equivalent degree.

Candidates for the degrees of Civil Engineer (C. E.), Electrical Engineer (E. E.), Mechanical Engineer (M. E.), or Chemical Engineer (Ch. E.), must complete satisfactorily one year of graduate work in residence, or two years of professional practice and graduate work *in absentia,* the equivalent of twenty-four hours University credit, and present an acceptable thesis.

The thesis subject shall be presented to the Dean of the Department of Engineering on or before December 1, and the thesis itself on or before May 1 of the given year. The graduate work is under the direct charge of the Heads of the respective departments.

COLLEGE OF ARTS AND SCIENCE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President, and Professor of Ancient and Medieval History.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,
President-elect, and Professor of Educational Psychology.

JOHN CARLETON JONES, A. B., Ph. D.,
Professor of Latin Language and Literature, and Dean of the College.

EDWARD ARCHIBALD ALLEN, Litt. D.,
Professor of English Language and Literature.

WILLIAM GWATHMEY MANLY, A. M.,
Professor of Greek Language and Literature.

JOHN PICKARD, A. B., Ph. D.,
Professor of Classical Archaeology and the History of Art, and Curator of the Museum of Classical Archaeology.

BENJAMIN FRANKLIN HOFFMAN, B. L., M. L.,
Professor of Germanic Languages.

RAYMOND WEEKS, A. B., Ph. D.,
Professor of Romance Languages.

WILLIAM GEORGE BROWN, B. S., Ph. D.,
Professor of Chemistry, and Director of the Laboratories.

JOHN RUTLEDGE SCOTT, A. B., A. M.,
Professor of Elocution.

ISIDOR LOEB, B. S., LL. B., Ph. D.,
Professor of Political Science and Public Law.

CURTIS FLETCHER MARBUT, B. S., A. M.,
Professor of Geology and Mineralogy, and Curator of the Geological Museum.

GEORGE LEFEVRE, A. B., Ph. D.,
Professor of Zoology, and Curator of the Zoological Museum.

CHARLES A. ELLWOOD, Ph. B., Ph. D.,
Professor of Sociology.

CHARLES WILSON GREENE, A. B., A. M., Ph. D.,
Professor of Physiology and Pharmacology.

MAX MEYER, Ph. D.,
Professor of Experimental Psychology.

CLARK WILSON HETHERINGTON, A. B.,
Professor of Physical Training, and Director of Gymnasiums and Athletics.

FREDERICK HANLEY SEARES, B. S.,
Professor of Astronomy, and Director of the Laws Observatory.

‡BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,
Professor of Botany.

CLARENCE MARTIN JACKSON, B. S., M. S., M. D.,
Professor of Anatomy and Histology.

EARLE RAYMOND HEDRICK, A. B., A. M., Ph. D.,
Professor of Mathematics.

HERMANN BENJAMIN ALMSTEDT, B. L., Ph. D.,
Professor of Germanic Languages.

OSCAR MILTON STEWART, Ph. B., Ph. D.,
Professor of Physics.

NORMAN MACLAREN TRENHOLME, A. M., Ph. D.,
Professor of History.

SIDNEY CALVERT, B. Sc., A. M.,
Professor of Organic Chemistry.

†HENRY MARVIN BELDEN, A. B., Ph. D.,
Professor of English Language and Literature.

JONAS VILES, A. B., A. M., Ph. D.,
Professor of American History.

HERMAN SCHLUNDT, B. S., M. S., Ph. D.,
Professor of Physical Chemistry.

GUY MONTROSE WHIPPLE, A. B., Ph. D.,
Acting Professor of Educational Psychology.

ARTHUR ONCKEN LOVEJOY, A. B., A. M.,
Professor of Philosophy.

WINTERTON CONWAY CURTIS, A. B., A. M., Ph. D.,
Professor of Zoology.

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‡Resigned.
†On leave of absence, second semester, session, 1907-08.

EVA JOHNSTON, A. M., Ph. D.,
Assistant Professor of Latin.

WILLIAM BAIRD ELKIN, A. B., Ph. D.,
Acting Assistant Professor (in charge) of Philosophy.

CAROLINE TAYLOR STEWART, A. B., A. M., Ph. D.,
Assistant Professor of Germanic Languages.

JOHN SITES ANKENEY, JR., A. B.,
Assistant Professor (in charge) of Freehand Drawing.

JESSE HARLIAMAN COURSAULT, A. B., A. M., Ph. D.,
Assistant Professor of Philosophy of Education.

OLIVER DIMON KELLOGG, A. B., A. M., Ph. D.,
Assistant Professor of Mathematics.

WILLIAM MORTON DEY, A. B., A. M., Ph. D.,
Assistant Professor of Romance Languages.

MURRAY SHIPLEY WILDMAN, A. B., Ph. D.,
Assistant Professor (in charge) of Economics.

LEWIS DARWIN AMES, A. B., A. M., Ph. D.,
Assistant Professor of Mathematics.

HENRY LAMAR CROSBY, A. B., A. M., Ph. D.,
Assistant Professor of Greek.

ARTHUR HENRY ROLPH FAIRCHILD, A. B., A. M., Ph. D.,
Assistant Professor of English.

THOMAS JAMES RILEY, A. B., A. M., Ph. D.,
Assistant Professor of Sociology.

ELEXIOUS THOMPSON BELL, B. S., M. D.,
Assistant Professor of Anatomy.

HERBERT MEREDITH REESE, A. B., Ph. D.,
Assistant Professor of Physics.

†WILHELMUS DAVID ALLEN WESTFALL, A. B., Ph. D.,
Assistant Professor of Mathematics.

GEORGE MATTHEW REED, A. B., A. M., Ph. D.,
Assistant Professor of Botany.

ALBERT GRANBERRY REED, A. B., A. M., Ph. D.,
Instructor in English.

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†On leave of absence, session, 1907-08.

LOUIS INGOLD, A. B., A. M., Ph. D.,
Instructor in Mathematics.

‡HOMER LEROY SHANTZ, B. S., Ph. D.,
Instructor in Botany.

CARL CONRAD ECKHARDT, Ph. B., Ph. D.,
Instructor in History.

HOWARD VERNON CANTER, A. B., Ph. D.,
Instructor in Latin.

CAROLINE McGILL, A. B., A. M.,
Instructor in Anatomy.

WILLIAM JAMES MONILAW, M. D.,
Instructor in Athletics.

FLORENCE DELIA ALDEN, A. B.,
Instructor in Athletics.

MARLOW ALEXANDER SHAW, A. B., Ph. D.,
Instructor in English.

JAMES WILLIAM PUTNAM, Ph. B., A. M.,
Instructor in Economics.

†SAMUEL DAVID GROMER, B. S., A. M.,
Instructor in American History.

WILLIAM HENRY SCHULTZ, Ph. B., Ph. D.,
Instructor in Physiology.

ERNEST VANCOURT VAUGHN, B. L., A. M.,
Instructor in History.

HELENE M. EVERS, A. B., A. M., Ph. D.,
Instructor in Romance Languages.

THEODORE ELY HAMILTON, A. B., A. M., Ph. D.,
Instructor in Romance Languages.

JAMES ANDREW GIBSON, B. A., M. A.,
Instructor in Analytical Chemistry.

FRANCIS WILLIAM COKER, A. B.,
Instructor in Political Science and Public Law.

†MARY SHORE WALKER, A. B., A. M.,
Instructor in Mathematics.

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‡Resigned.
†On leave of absence, session, 1907-08.

ROBERT LEE RAMSAY, A. B., Ph. D.,
Instructor in English.

ROBERT EDWARD LOVING, A. B., A. M., Ph. D.,
Instructor in Physics.

CLARENCE PERKINS, A. B., A. M.,
Instructor in History.

ROBERT BANKS GIBSON, Ph. B., Ph. D.,
Instructor in Physiological Chemistry.

OTTO DUNKEL, A. B., A. M., Ph. D.,
Instructor in Mathematics.

LOUIS LAZARUS SILVERMAN, A. B., A. M.,
Instructor in Mathematics.

FRANK FLETCHER STEPHENS, Ph. B., Ph. M., Ph. D.,
Instructor in American History.

J. F. McCLENDON, B. S. M. S., Ph. D.,
Instructor in Zoology.

WILLIAM GODFREY BEK, A. B., A. M., Ph. D.,
Instructor in Germanic Languages.

EDWARD ALLEN THURBER, A. B., A. M.,
Instructor in English.

GILBERT CAMPBELL SCOGGIN, A. B., A. M., Ph. D.,
Instructor in Sanskrit and Comparative Philology.

HOMER HOWELLS HARBOUR, A. B.,
Instructor in English.

FREDERICK VALENTINE EMERSON, A. B., Ph. D.,
Instructor in Geology.

FRANK ULYSSES GRANT AGRELIUS, A. B.,
Instructor in Botany.

ERNEST EARL MORLAN, A. B., A. M.,
Assistant in Chemistry.

STANLEY SISSON, B. S.,
Assistant in Experimental Psychology.

GEORGE WASHINGTON TANNREUTHER, A. B., A. M.,
Assistant in Zoology.

ELI STEWART HAYNES, A. B.,
Assistant in Astronomy.

HARLEY EARL HOWE, B. S.,
Assistant in Physics.

PETER THOMPSON HEDGES, B. S.,
Assistant in Mathematics.

ALEX ISADORE ANDERSON, A. B.,
Assistant in Athletics.

MERLE RANDALL, A. B.,
Assistant in Chemistry.

HARVEY WHITFIELD PECK, A. B., A. M.,
Assistant in English.

FOSTER PARTRIDGE BOSWELL, A. B., A. M., Ph. D.,
Assistant in Experimental Psychology.

HARRY CLAIRE PHILIPPI, B. S.,
Assistant in Physics.

ALICE MILROY PAINE, B. S. in Ed.,
Assistant in Mathematics.

ADRIANA M. LIEPSNER, A. B., B. S., A. M.,
Assistant in Mathematics.

EDGAR AUGUSTUS COCKEFAIR, B. S.,
Assistant in Botany.

HENRY WOOD BERGER, A. B.,
Research Assistant in Physiology.

ALBERT HOGAN, A. B.,
Student Assistant in Zoology.

FRANKLIN PARADISE JOHNSON,
Student Assistant in Anatomy.

LEWIS KNUDSON, A. B. in Agr.,
Student Assistant in Botany.

SAMUEL MOREELL,
Student Assistant in Physics.

CLARENCE ESTES,
Problem Reader in Chemistry.

G. MILDRED MOORE,
Student Assistant in Freehand Drawing.

ROBERT FRANCIS HOWARD,
Student Assistant in Botany

ROBERT MILTON SMITH,
Student Assistant in Chemistry.

EULA WEEKS,
Problem Reader in Mathematics.

RUTH OLIVE COVINGTON, A. B., B. S. in Ed.,
Problem Reader in Mathematics.

EDWIN WILHITE PATTERSON,
Problem Reader in Mathematics.

JOHN HOWARD HART,
Problem Reader in Mathematics.

WILL HARVEY BAINUM,
Problem Reader in Mathematics.

CECIL SHANNON LYNCH,
Student Assistant in Physics.

MARY LUCILLE KEENE,
Student Assistant in Botany.

LOUIS OTTO KUNKEL,
Student Assistant in Botany.

WEBSTER NEWTON JONES,
Student Assistant in Chemistry.

GENERAL REGULATIONS.

Requirements for Admission:

For information in regard to requirements for admission, see pages 71-81.

Tuition Charges and Fees:

For information in regard to tuition charges, fees, scholarships, etc., see pages 92 and 102.

Elective System:

Work in the College of Arts and Science is largely elective; that is, the student makes such choice and combination of the studies offered in this Department as he desires, subject to certain restrictions explained below under the Requirements for Graduation. Election is made for the entire session, except in the case of studies which are offered for only one semester. Those who elect such studies in the first semester must make a new election at the beginning of the second semester.

At the opening of the session each student is required to enter on a blank form provided for that purpose, called a study card, a list of the studies he wishes to pursue. The student should consult the Dean in making out this card. He must also fill out a course card for each course entered on the study card. The study card and the course cards must be presented for approval to the Dean not later than 5 o'clock p. m. of the day following the date of issue, and in no case later than 5 o'clock p. m. on Saturday of the first week of the semester.

The student may not take more than 16 nor less than 12 hours a week (Physical Training not counted). But students who are candidates for the Life Certificate in the Teachers College may take 3 hours of Industrial work in any year, in addition to 15 hours of work in the College of Arts and Science. This Industrial work does not count toward the A. B. degree. When a student has elected a course that runs through both semesters, he must abide by his election unless he fail in the work of the first semester or can secure the permission of the Faculty to abandon it or to make a substitution.

Each Professor determines the special requirements for admission to the different courses offered by him or his Assistants. These requirements are for the most part stated in the detailed explanation of the courses. The student should consult each Professor under whom he wishes to take work before making his election.

REQUIREMENTS FOR GRADUATION.

The degree of Bachelor of Arts (A. B.) is the only undergraduate degree conferred in the College of Arts and Science. In order to become a candidate for this degree, a student must have met the following requirements:

1. He must have been regularly admitted to the Department. See page preceding.

2. He must complete during the first two years of his course:

(a) Six hours of English; (b) Six hours of History; (c) Six hours of Ancient Languages, Literature and History; (d) Six hours of Modern Languages; (e) Six hours of Mathematics, or Logic and Psychology; (f) Six hours of Physical Science (Astronomy, Chemistry, Geology and Mineralogy, Physics); (g) Six hours of Biological Science (Anatomy and Histology, Botany, Physiology, Zoology).

These requirements may be waived on the following condi-

tions: If the student presents four units for entrance in one of the requirements (b) or (c), or three in (d) or (e), or two in (f) or (g), he will be excused from that requirement. *Such exemptions do not excuse him from the requirement of total hours stated in* (4).

By "hour" is meant one period a week for one semester.

3. During the last two years of his course he must complete—(a) One major of at least 24 hours, to be chosen from one of the six divisions of studies, for students in the College of Arts and Science, of which at least 12 hours must be from courses offered for "Undergraduates and Graduates," or for "Graduates;" (b) One minor of at least 12 hours, which must be taken in a division other than that in which the major is taken.

Work done to meet the requirements in (2) cannot be included in counting up hours for a major or a minor.

The courses making up the major must be approved by a professor chosen by the student as adviser from the division in which the major is made; and the minor must also be approved by a professor in the division in which the minor is made. The student must, on or before the beginning of his Junior year, notify in writing the Committee on Graduation of his selection of his major and minor. The six divisions of academic studies are as follows:

Classical Languages (Classical Archaeology and History of Art, Greek, Latin); Modern Languages (English, German, Romance Languages); Mathematics and Physical Sciences (Astronomy Chemistry, Geology and Mineralogy, Mathematics, Physics); Biological Sciences (Anatomy and Histology, Botany, Physiology, Zoology); Philosophy and Education (Education, Philosophy, Experimental Psychology); History and Political Science (Economics, History, Political Science and Public Law, Sociology).

4. He must have completed a total of at least one hundred and twenty (120) hours. Besides the work offered in the six divisions, work in Freehand Drawing and Elocution may be counted towards graduation. The following courses in other Departments are open as electives to students in the College of Arts and Science, and the candidate may present them (to an amount not exceeding nine (9) hours in all, except in case of work in the Department of Law and in the Teachers College) as a part of the one hundred and twenty (120) hours required for graduation.

From the School of Agriculture: Entomology, for not more than six hours; Agricultural Chemistry, for not more than six hours; Home Economics, for not more than nine hours.

From the Department of Medicine: Hygiene, for not more than three hours.

From the Department of Engineering: Thermodynamics and Kinematics each, for not more than three hours; Descriptive Geometry and Alternating Currents each, for not more than six hours; Mechanics of Engineering, for not more than nine hours.

From the Department of Law: Seniors may elect from the First year's work in Law to an amount not exceeding twenty-two hours. Under special circumstances this privilege may be extended to Juniors with the consent of the Deans of the College of Arts and Science and the Department of Law. Students in the College of Arts and Science may elect Physical Training or Military Science three hours a week for four semesters and receive a credit towards the degree of Bachelor of Arts of one hour for each semester.

From the Teachers College: Harmony and Counterpoint for not more than twelve hours. Chorus Singing one hour a year with a maximum cerdit of not more than four hours.

The candidate may also offer, as part of the one hundred and twenty (120) hours, work done in the Summer Session. (See Appendix).

Credit will also be given for work done in any institution of good standing upon the following courses: (1) the Bible as Literature, maximum 2 hours; (2) History of the Jews, maximum 3 hours; (3) Comparative Religions, maximum 3 hours; (4) Hebrew Language and Literature, 6 hours, provided that in the judgment of the Dean of the Faculty and of the Professor in charge of the subject most closely related, the work in these courses in said institution is done in a satisfactory manner.

In case any one or more of these courses is taken by a student while he is enrolled as a student in this University, his registration for such courses must meet with the approval of the Dean and the Professor or Professors above mentioned, and must be subject to the usual restrictions as to total number of hours credit registered for in any semester; and the total credit for such courses shall be subject to the rule governing the maximum amount of credit granted to Academic students for courses elected in other departments.

Note: It is understood that the subjects most closely related to the above courses are: (1) The Bible as Literature, ENGLISH; (2) History of the Jews, HISTORY; (3) Comparative Religions, PHILOSOPHY; (4) Hebrew Language and Literature, GREEK.

Until September, 1910, the following work may be presented by a candidate in place of (2) and (3):

Completion of at least twelve (12) hours in each of three subjects and at least twenty-four (24) hours in a fourth subject, the subjects to be chosen from the following group:

Anatomy and Histology; Astronomy; Botany; Chemistry; Classical Archaeology and History of Art; Economics; Education; Elocution; English; Experimental Psychology; Freehand Drawing; Geology and Mineralogy; Germanic Languages; Greek; History; Latin; Mathematics; Philosophy; Physics; Physiology; Political Science and Public Law; Romance Languages; Sociology; Zoology.

The following combinations of subjects may be counted for a major (24 hours) or a minor (12 hours), provided neither of the subjects entering into the combination has been counted separately as a major or minor: Economics and Sociology; History and Political Science; Philosophy and Experimental Psychology. Course I in Zoology may be counted toward a major or minor in Physiology.

COURSES IN DETAIL.

(Courses designated by a number with the letter a attached, thus: 4a, 6a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, 6b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Capital letters attached to the number of the course have no reference to semester or session. Arabic numerals in parethesis indicate the number of hours credit a semester. For schedule of days and hours application should be made to the Registrar after August 1.)

Anatomy and Histology.

Professor JACKSON; Assistant Professor BELL; Miss MCGILL.

For Undergraduates.

1a, 1b. **Elementary Anatomy.** A course designed to give a knowledge of the general structure of the human body. No credit toward the Medical degree is allowed for this course. Either semester may be taken separately. The First semester includes the skeleton, blood-vessels, muscles and surface form of the body. In the Second semester, the viscera, nervous system and sense

organs are studied. Lectures, recitations and demonstrations (gross and microscopic). (3).

2a. **Osteology.** A complete disarticulated human skeleton is issued to every two students for use during the course. Fee for use of skeleton, $2; a deposit of $10 required. Recitations and demonstrations. (3).

3. **Normal Histology.** A study of the microscopic anatomy of the body. Each student prepares, stains and mounts permanently about 100 specimens for study. Laboratory fee, $3.50 each semester. (3).

4. **Dissection.** The upper and lower extremities are dissected in the first semester; the thorax and abdomen, in the second. Fee, $4.50 each semester. (3).

5b. **Neurology.** A study of the central nervous system and sense organs. Laboratory, with one lecture a week. Laboratory fee, $3.50. (3).

6a. **Advanced Dissection.** Dissection of the head and neck. Laboratory fee, $4.50. (3).

For Undergraduates and Graduates.

7b. **Topographic Anatomy.** A study of the topography of the various organs by means of serial sections through the entire body. Laboratory fee, $4.50. (3).

8b. **Advanced Human Embryology.** Based upon a study of human and mammalian embryos of various stages. Especial attention is paid to the histogenesis. Open only to students who have had (or are taking) the elementary courses in Anatomy, Histology and Embryology. (3).

9. **Advanced Anatomy or Histology.** The character of this work may be varied to suit individual needs. In connection with this course, a seminary is held once a week (and may be taken separately, if desired), at which reports on current literature and research work in progress are discussed.

Primarily for Graduates.

10. **Research.** Problems will be assigned to students properly qualified for investigation in Anatomy or Histology. A reading knowledge of German and French is required.

Course 1a, 1b is open to Freshmen. For the other courses, Zoology 1, or equivalent, is required as preparation.

Astronomy.

Professor SEARES; Mr. HAYNES.

For Undergraduates.

1. **Descriptive Astronomy.** A general account of the methods and fundamental facts of astronomical science, together with an untechnical consideration of the problems upon which astronomers are engaged at the present time. Constellation study and demonstration exercises with the instruments of the Laws Observatory. (3).

2. **Spherical and Practical Astronomy.** Lectures, recitations, and practical work with the instuments of the Laws Observatory. Open to students taking course 1 or course 11, who have completed Elementary Mathematics and General Physics. (3).

3. **Spherical and Practical Astronomy.** Prescribed for Junior students in Civil Engineering. (2).

11. **Descriptive Astronomy.** Same as course 1. Begins Second semester and continues throughout one year. (3).

For Undergraduates and Graduates.

4. **History of Astronomy.** Historical development of the science; its spirit; its influence on other sciences. The development of astronomical theories as an exemplification of the methods of science in general. Open to students who have completed course 1 or course 11. (3).

5. **Advanced Spherical and Practical Astronomy.** Open to students who have completed course 2 or course 3. Three units credit. (3).

6a. **Numerical Computation.** Methods and precepts for the facilitation of numerical calculations. Development of the principal formulae of Interpolation and Mechanical Quadratures, with extensive applications to the problems of Astronomy and Geodesy. (2).

7b. **Method of Least Squares,** with applications to the problems of Astronomy and Geodesy. (2).

Primarily for Graduates.

8. **Theory of Orbits and Special Perturbations.**

9. **Celestial Mechanics.**

10. **Research.**

Hours to be arranged for courses 5 to 10.

The Laws Observatory:

The practical work of the Department of Astronomy is carried on with the instruments of the Laws Observatory.

The equipment consists of a 7½-inch equatorial refracting telescope by Merz and Sons of Munich; a 4½-inch equatorial refracting telescope by Gans; a 2 1-10-inch transit instrument by Brunner of Paris; a 2⅛-inch altitude and azimuth instrument by E. & G. W. Blunt of New York; a Pickering stellar photometer; a disc photometer by Brashear; a theodolite; sidereal and mean-time clocks; sidereal break-circuit chronometer; chronograph; sextants; micrometer; spectroscope, and outfit of smaller instruments. ments.

Clocks and instruments are mounted on piers of solid masonry, isolated from the floors and walls of the buildings, and are provided with the usual electrical connections. The dome covering the 7½-inch telescope is 18 feet in diameter. A cone 14 feet in diameter shelters the 4½-inch equatorial.

In the year 1880, Dr. S. S. Laws, then President of the University, contributed largely from his private funds toward the improvement of the observatory building and instruments. In recognition of this generosity the Board of Curators named the observatory in his honor.

The Laws Astronomical Medal:

The "S. S. Laws Astronomical Medal" is offered annually at Commencement to the student who stands highest in Astronomy, and has at the same time attained a high average of general scholarship. An original thesis written on some astronomical subject, and showing capacity for scientific investigation, is required.

Botany.

‡Professor DUGGAR; Assistant Professor REED; ‡Dr. SHANTZ; Mr. AGRELIUS; Mr. COCKEFAIR; Mr. KNUDSON; Mr. HOWARD; Miss KEENE; Mr. KUNKEL.

For Undergraduates.

1a. **General Botany.** The first of the semester is devoted to a study of cell structure and the fundamental principles of plant physiology. The student is taught to set up experiments and to keep records of observations on plant activities. In the second half of the semester a series of typical cryptogams is studied from the point of view of development. (3). Professor DUGGAR; Assistant Professor REED; Dr. SHANTZ; Mr. COCKEFAIR; Mr. KNUDSON; Mr. HOWARD.

1b. **General Botany.** This course continues the study of representative groups begun in 1a, dealing with the morphology and the life histories of certain gymnosperms and angiosperms, concluding with some general work in ecology. (3). Assistant Professor REED; Mr. AGRELIUS; Mr. COCKEFAIR; Mr. HOWARD; Miss KEENE.

2a. **Morphology and Classification of Seed-Bearing Plants.** A comprehensive study of representative groups and their relationships. (3). Dr. SHANTZ.

3b. **Ecology.** A study of the environment and its effects upon the plant, followed by a study of plant association, invasion, succession, and geography. (3). Dr. SHANTZ.

4b. **Morphology and Physiology of the Bacteria.** A general course in the fundamental principles of bacteriology, in which the Bacteria are considered from the Botanical standpoint. The importance of these organisms in their relations to agriculture, the processes of fermentation and decay, plant and animal diseases, etc., is emphasized. (3). Assistant Professor REED; Mr. AGRELIUS.

5a. **Economic Plant Geography.** A study of the distribution of useful plants as grown or exploited with reference to environment. (1). Professor DUGGAR.

For Undergraduates and Graduates.

6a. **Mycology.** A course in the morphology and physiology of the fungi. Types of the principal groups are studied in the laboratory, special attention being given to the parasitic forms. (3). Assistant Professor REED.

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‡Resigned.

7b. **Advanced Mycology.** In this course the fungi are studied more from the pathological standpoint. Infection experiments are made with the parasitic fungi, including the bacteria parasitic on plants; the period of incubation, the manner of infection, the character of the disease, and, to a certain extent, methods of combating the organism causing the disease are considered. This course should be preceded by course 6a. (3). Assistant Professor REED.

8a. **Embryology and Cytology.** A comparative study of the embryology of representative green plants, cytology and microtechnique.

9a. **Advanced Physiology.** Lectures and experimental work on absorption, nutrition, and growth, and the effects of external stimuli upon plant functions and structures. (3). Professor DUGGAR.

10a. **The Principles of Evolution as Applied to the Study of Plants.** (1). Professor DUGGAR.

11. **Special Problems.** A preliminary to graduate research, and in exceptional cases, special training in lines not sufficiently emphasized in general courses. Laboratory work and a bi-weekly conference for presentation of reports on work assigned. Adequate fundamental work is essential. (3 or more). Professor DUGGAR; Assistant Professor REED; Dr. SHANTZ.

Primarily for Graduates.

12. **Research.** Problems for investigation may be assigned in any of the general lines of work for which the student may be best prepared. (3 or more). Professor DUGGAR; Assistant Professor REED; Dr. SHANTZ.

13. **Seminary.** The seminary offers to advanced students an opportunity to become familiar with current work in Botany. Reports on appropriate topics will be required, as well as reports on any research work in progress. (1). Professor DUGGAR; Assistant Professor REED.

Chemistry.

Professor BROWN; Professor CALVERT; Professor SCHLUNDT; Mr. GIBSON; Mr. MORLAN; Mr. RANDALL; Mr. ESTES; Mr. SMITH; Mr. JONES.

For Undergraduates.

1. **General Inorganic Chemistry.** Lectures, laboratory work, problems and recitations. Lectures (two) 2 sections; Recitation (one); Laboratory (four). (6).

2. **General Inorganic Chemistry.** Lectures, laboratory work, problems and recitations. Lectures (two) 2 sections; Recitation (one); Laboratory (two). (4).

5a or 5b. **Organic Chemistry.** An elementary course designed for those who wish a brief survey of the subject and have not time for the more extended course 11. Lectures and laboratory work. (3). Professor CALVERT.

7. **Qualitative Chemical Analysis.** Laboratory work, recitations and lectures. (3). Mr. GIBSON.

8b. **Glass Working.** (1). Mr. MORLAN.

9. **Inorganic Preparations.** (3).

10. **Technical Chemistry.** Required of Chemical Engineering students. (3). Mr. GIBSON.

For Undergraduates and Graduates.

11. **Organic Chemistry.** Lectures, recitations, and laboratory work. (3). Professor CALVERT; Mr. SMITH; Mr. JONES.

12a. **Preparation of Organic Compounds.** Laboratory Course may be taken with course 11. (3). Professor CALVERT.

13b. **Preparation of Organic Compounds and Organic Analysis.** Laboratory Course. (3). Professor CALVERT.

14a or 14b. **Industrial Organic Chemistry.** Starch, glucose, sugar, fats, oils, soaps, dyes, and other industries. Lectures and recitations. (3). Professor CALVERT.

17. **Quantitative Organic Analysis.** Quantitative analysis of commercial organic products, such as alcohols, aldehydes, organic acids, glycerine, oils and fats, carbohydrates, petroleum products, soaps, etc. (3). Professor CALVERT.

18. **Physical Chemistry.** Lectures, recitations, and laboratory work. This course should be preceded by courses in General Inorganic and Organic Chemistry or accompanied by course 11. A knowledge of elementary, differential and integral calculus is desirable. Lectures, (two); Laboratory, (one). (3). Professor SCHLUNDT.

18a. **Physical Chemistry.** Lectures and recitations (the same as course 18). Laboratory, (two). (4). Professor SCHLUNDT.

19. **Physical Chemistry.** Laboratory work supplementary to course 18. (2). Professor SCHLUNDT.

20. **Advanced Inorganic Chemistry.** Lectures and recitations. (3).

21. **Quantitative Chemical Analysis.** The general principles

of gravimetric and volumetric analysis. Laboratory work and lectures. (3). Mr. GIBSON.

22. **Advanced Quantitative Chemical Analysis.** (6).

23. **Electro-chemistry.** Lectures, recitations and laboratory work in electro-chemical measurements. Lectures, (two); Laboratory, (one). (3). Professor SCHLUNDT.

24. **Electro-chemistry.** Laboratory work supplementary to course 23. (3). Professor SCHLUNDT.

Primarily for Graduates.

26. **Radio-activity.** Lectures, experimental work, and recitations on the radio-active types of matter and atomic disintegration. The work is based on Rutherford's "Radio-activity." (3). Professor SCHLUNDT.

29b. **Chemical Theory.** Lectures and recitations. (3).

30a. **History of Chemistry.** Lectures and recitations. (3).

Courses 29b and 30a should be preceded by courses 1 or 2, 11 and 18.

31a and 31b. **Advanced Organic Chemistry.** Lectures on selected topics, supplemented by reading and reports on classical researches. (3). Professor CALVERT.

35. **Advanced Physical Chemistry.** Lectures on selected topics, supplemented by reading and reports on classical researches. A reading knowledge of German and French is required. Credit to be arranged. Professor SCHLUNDT.

40. **Mathematical Chemistry.** Lectures on the applications of the operations of the higher mathematics to the study of chemical reactions. (2). Mr. MORLAN.

50. **Research.** This will consist principally of original work and investigation in (1) Inorganic, (2) Organic, and (3) Physical Chemistry, and will be adapted in some measure to individual cases.

Where no hours are given for the course these will be arranged.

A meeting is held fortnightly, at which reports on current literature, abstracts of special lines of research and the results and progress of investigations in the University and the Agricultural Experiment Station are presented for the information and discussion of those particularly interested in Chemistry and its applications. Friday at 4:30.

Classical Archaeology and the History of Art.

Professor PICKARD.

For Undergraduates.

1. **History of Modern Painting.** Particularly of French and English. Lectures and collateral reading. Critical study of representative pictures by means of lantern slides, photographs and other reproductions. (2).

2. **Classical Mythology.** The myths as they are represented in literature and in Greek and Roman Art. Recitations and illustrated lectures. (1).

For Undergraduates and Graduates.

5. **History of Modern Belgian, Modern Dutch and American Painting.** Lectures and collateral reading. Critical study of representative pictures by means of lantern slides, photographs, and other reproductions. (2).

6. **History of Greek Art.** A preliminary study of Assyrian and of Egyptian Art, followed by a study of the development of Greek Architecture and Sculpture. Lectures, collateral readings, essays, with constant use of the lantern, photographic reproductions, and models and casts in the Museum of Classical Archaeology. Greek History (Greek 6a) is recommended to the students of this course. (3).

7a. **Mycenaean Art or Art of Primitive Greece.** The earliest discoveries at Mycenae, Tiryns and elsewhere will not be neglected, but special attention will be given to the most recent publications on Troy, Crete, and the Argive Heraeum. (1).

8b. **Introductory Study of Greek Vases and Vase Paintings.** Reference book, Pottier's Catalogue of the Louvre Vase Collections. (1).

While a knowledge of the Greek language is not an absolute prerequisite for 7a and 8b, these courses are intended for advanced students in Greek.

9. **Etruscan and Graeco-Roman Art.** This course should be preceded by course 6. It will deal with the earliest art of the Italian Peninsula, endeavor to show how this art reached its highest development among the Etruscans, how Etruscan influenced

early Roman Art, how later Roman Art grew out of early Roman and late Greek Art modified by the circumstances and character of the Romans. Roman History (Latin 12b) is recommended to students in this course. (2).

10. **Roman Life.** A systematic study of the topography of Rome and of the extant remains particularly of Rome and Pompeii. Lectures and readings. Illustrated by the use of plans, maps, and lantern slides. As supplementary to this course, Roman Public and Private Life (Latin 5) is recommended. (2).

11. **History of Renaissance Painting.** *First Semester*: Italian Painting. *Second Semester*: Painting of the Netherlands and of Germany. This course should be preceded or accompanied by European History (History 1). With Italian Painting. The Culture and Civilization of Renaissance (History 13b) is also earnestly recommended. (3).

13. **Masterpieces of Architecture, Sculpture, and Painting of Classical, Renaissance and Modern Times.** Lectures fully illustrated with the stereopticon. This course aims to show the historical development of art by the discussion of some of the finest examples in each of the three divisions mentioned. (1).

Primarily for Graduates.

14. **Topography and Monuments of Athens.** Frazer's Pausanias will be taken as the basis of discussion. A reading knowledge of Greek, French and German required. (2).

15. **Archaeological Seminary.** Hours and work to be arranged.

As supplementary to all courses offered in the history of Painting and of Sculpture, the Theory of Representation (Freehand Drawing) is recommended.

Museum of Classical Archaeology:

The museum occupies the third floor of the west wing of Academic Hall. It is supplied with models of temples representing the three orders of Greek Architecture, and with plaster casts of representative specimens of Greek and Roman sculpture. These are arranged chronologically, and on the walls are hung many framed photographs of other works of classic art. Many casts and four original specimens of Egyptian sculpture have been recently added. The museum possesses a large number of unframed photographs and an extensive collection of lantern slides.

Renaissance and Modern Painting:

The collections of photographs, lantern slides, and other means of illustrating courses in these subjects have been very largely increased during the past year. For reproducing the color of the originals a *Kromskop* and lantern slides made by the *trichrome* process are used. The picture gallery near the Museum of Classical Archaeology is hung with carbon photographs, photogravures, and other reproductions of masterpieces of painting.

Economics.

Assistant Professor WILDMAN (in charge); Mr. PUTNAM.

For Undergraduates.

As preparatory to the work in Economics, students are advised to take course 1 in History. The courses in Economics are not open to Freshmen.

1. **General Economics.** This course or its equivalent is a prerequisite to all others offered in this department except 2a and 2b, 3a and 3b. Its purpose is to give students a broad grasp of the fundamental principles of the science, a general knowledge of the scope and method, a brief survey of economic history and of the development of scientific thought on this subject. (3).

2a. **Principles of Economics.** This course is intended to present a brief outline of economic theory adapted to Seniors or other mature students whose obligations in other departments are so great as to prevent their taking the general course. Members of lower classes or persons to whom the general course is available will not be registered for this course. (2).

2b. **Agricultural Economics.** A study of those principles of Economic Science which are particularly concerned with Agriculture and the business relations of the former. In so far as possible in the time allowed, attention will be given to markets, banks, transportation, tariffs, and such other institutions and conditions as affect this industry. Open to students who have taken course 1 or 2a. (2).

3a. **Economic History.** It is the purpose of this course to give the student as clear a conception of the conditions of economic life and activity as the time allotted will permit. After a brief review of the Industrial Revolution in England in the 18th century, the greater part of the course will be devoted to the industrial development of the United States. (2).

3b. **Economic Geography.** This course is a study of those geographical facts touching commerce and industry which are thought to be most significant. Commercial phenomena are treated as the effect of conditions that determine the character and quantity of trade. Not only geographical, but institutional influences, such as inventions, methods of transportation and industrial processes, are made prominent. Not given in 1907-08.

For Undergraduates and Graduates.

4a. **Science of Finance.** While this course is chiefly concerned with the principles of taxation, such problems as those of public expenditures, budgetary practice and the proper relations of the State to industry and trade are also involved. This course is open to those who have taken course 1 in Economics, and should be followed by course 9b in Political Science, and 4b in this department. (3).

5. **Money, Credit and Banking.** This course is concerned with the origin and history of Money, and the scientific principles involved in Monetary Theory. The purpose will be to form correct notions regarding the nature and importance of a proper standard of value and system of currency. A study of the principles of Banking and Credit will be illustrated by a comparison of the banking systems and methods of leading nations. (2).

6b. **Economics of Transportation.** A history of the development of transportation agencies, and a study of the principles of rate-making and rate-regulation. (2).

7b. **Industrial Organization.** This course is chiefly concerned with the nature and development of the modern industrial corporation. Attention will be directed to problems of organization and management, the relation of stock-holders, bond-holders, and patrons. (2).

8a. **Insurance.** The general principles of the different forms of personal and property insurance and the main problems connected with each. Not given in 1907-08. (3).

8b. **The Tariff.** This course is open to students who have taken course 1 or 2a, but students are advised to take 3b also by way of further preparation. Not given in 1907-08.

9. **Financial History of the United States.** This course presents a study of the financial operation of the Federal Government from the organization of the Treasury Department to the present time. Various phases of our financial practice will be examined

and criticised. The course is particularly adapted to the needs of students who have done the work of courses 4a and 5. (3). Not given in 1907-08.

Primarily for Graduates.

10b. **Problems of Labor.** This course presents a study of the special problems and interests of wage earners, such as the organization and policies of trades-unions, employers' associations, arbitration, profit-sharing, factory acts and other forms of labor legislation. (3).

11b. **Advanced Economic Theory.** The principal work of this course is to examine the writings of the most prominent economists from the time of Adam Smith to the present with the purpose of constructing a true theory of value. Not given in 1907-08.

12. **Seminary.** Economic History of Missouri. Open to graduates and to others who in the opinion of the Instructor are fitted for the work of original investigation. Hours to be arranged.

Education.

Acting Professor WHIPPLE; Assistant Professor COURSAULT.

For Undergraduates.

1a, 1b. **Introduction to the Study of Education.** This course aims quite as much to train the student to proper habits and methods of study as to introduce him to the problems of Education. After some discussion of the meaning and aims of Education, of the art of study, and the methods of teaching, a general presentation of educational ideals and institutions in their historic setting it made. This course is not open to Juniors and Seniors. (3). Acting Professor WHIPPLE.

4b. **Educational Psychology.** This course is designed to present the main facts concerning the nature and development of the mind during childhood and youth with special reference to the meaning of these facts to the teacher. It aims to prepare students for classroom work and for the Theory and Practice of Teaching and other courses in Education. It presupposes Experimental Psychology, 1a, or its equivalent. (3). Acting Professor WHIPPLE.

6. **History of Education.** The purpose of this course is to give a better understanding and appreciation of present educational

tendencies by tracing historically those educational movements which have been most effective in determining the present educational situation or are typical of prominent aspects of it. (2). Assistant Professor COURSAULT.

For Undergraduates and Graduates.

10a. **Educational Psychology.** This course may be taken after course 4b or independently of it. More scientific methods of study will be followed than in 4b, and no student will be permitted to take it before the Junior year. It presupposes course 1 in Experimental Psychology or its equivalent. (3). Acting Professor WHIPPLE.

11b. **Principles of Education.** The purpose of this course is to give insight into the meaning of education through a study of biological, psychological, ethical, logical and philosophical aspects of the subject, and thereby reveal the fundamental normative principles upon which educational procedure should rest. It presupposes at least a general course in Psychology. This course is intended for Seniors and Graduates. (3). Assistant Professor COURSAULT.

12a. **Educational Classics.** The aim of this course is to give insight into the development of educational theory by a critical study of several classics which have marked prominent stages in the development of educational thought. It presupposes the general course in the History of Education, 6, or the equivalent. (3). Assistant Professor COURSAULT.

13b. **History of Education in the United States.** The purpose of this course is to trace historically the most prominent educational movements in the United States with a view to giving a deeper insight into the present educational situation. A study will be made of the development of the curriculum, methods of teaching, organization and administration of schools in the United States. (3). Assistant Professor COURSAULT.

For Graduates.

40. **Philosophy of Education.** The purpose of this course is to give insight into the significance of education as a conscious effort towards human evolution by a study of its relation to the life process, and thus, by giving clearer insight into the aims and methods of education, help to make educational practice a rationalized endeavor rather than a mere routine. This course is open

only to students who have had training in philosophy. (3). Assistant Professor COURSAULT.

41. **Seminary in Educational Psychology.** The special problems selected for study will depend upon the interests of those taking the course, the aim being to guide advanced students of Education in constructive work in the theory of education through a detailed study of a few aspects of mental development. The course is open only to students who have had considerable training in both Education and Psychology. *Credits to be arranged.* Acting Professor WHIPPLE.

42. **Seminary in the History and Philosophy of Education.** A critical investigation of topics in connection with the thesis work for the graduate degrees. *Credits to be arranged.* Assistant Professor COURSAULT.

For other courses in Education, see Teachers College, page 201.

Elocution.

Professor SCOTT.

The following courses are offered:

1. *First Semester*: Foundation theory and practice of vocal culture and expression. Breathing for conscious voice-support; phonetics, applied to syllabic form and enunciation; stress, inflection, quantity, and quality; phrasing; movement and rhythmus; melody; intonation, and cadence; analysis of short prose and poetic passages, for the recognition and establishment of the correlation of utterance with thought and feeling. Texts: Scott's Illustrative Examples, and Raymond's Orator's Manual. *Second Semester*: Principles of bearing, walk, and gesture; the practice of short oratorical extracts, with the study of the *rationale* of appropriate utterance and action. To be followed by the study of more extended passages and entire compositions, prose and poetic, as readings and recitations. Text: Raymond's Orator's Manual.

2. **Advanced Work.** The interpretative study of plays, scenes, poems, and imaginative literature generally. Selections will be made jointly by the Professor in charge and the class, from Shakespeare, Milton, Scott, Tennyson, Browning, Dickens, Poe, Ruskin, and other representative writers. The emotional and spiritual, as well as the intellectual, elements of literature will be the objects of study and embodiment. This course is continuous through two semesters, and must be preceded by course 1. (2).

3. **Teachers Course.** This course is offered to students in the Teachers College, and counts toward the A. B. degree and the Life Certificate to teach. It must be preceded by course 1, and will comprise: (a) The criteria of vocal expression—time, pitch, quality, and force—with copious examples; (b) The method of teaching children to read. Text: S. H. Clark's "How to Teach Reading in the Public Schools." (2).

Freshmen in the College of Arts and Science are not admitted to the classes in Elocution.

A credit of 3 hours is given for the completion of course 1; no credit is allowed for less than the full year's work. In courses 2 and 3 each semester's work receives a credit of 2 hours.

English.

Professor ALLEN; Professor BELDEN; Assistant Professor FAIRCHILD; Dr. REED; Dr. SHAW; Dr. RAMSAY; Dr. BREED; Mr. PECK; Mr. THURBER; Mr. HARBOUR.

1. **English Composition and Rhetoric.** Detailed study and practice in Construction and the kinds of Composition. Lectures, exercises, and themes; class-room study of literature illustrative of the different kinds of Composition. (3). Professor BELDEN; Dr. REED; Dr. SHAW; Dr. RAMSAY; Dr. BREED; Mr. PECK; Mr. THURBER; Mr. HARBOUR.

1A. **Introduction to the Study of Literature.** An elementary course in the interpretation of literature in which a few representative plays, poems, and essays will be studied carefully. This course is required of all students in the Teachers College, and is recommended to students who expect to elect only one course in English Literature. Lectures and quizzes. (2). Assistant Professor FAIRCHILD.

Courses 1 and 1A are open to all Freshmen. Before enrolling in other courses, students must get the consent of the instructor.

2a. **Higher Composition, Exposition.** Study and practice in the different kinds of Exposition for facility and style. (3). Dr. RAMSAY.

2. **Higher Composition.** *First Semester*: Description and Narration. *Second Semester*: Critical and Constructive work in Short Story Writing. (3). Dr. SHAW.

16a. **Argumentation and Debating, Introductory Course.** Principles of argumentation; briefs; weekly debates. Criticism of thought.

use and arrangement of evidence, literary form and delivery. The class is limited to fifteen, but more than one section may be formed. Permission of the instructor is necessary before entering the course. (3).

16b. **Debating, Advanced Course.** Investigation of special questions; practice in longer debates. Criticism of thought, use and arrangement of evidence, literary form and delivery. Open to students who by competition win a place on the Debating Squad.

17b. **English Versification.** (2). Professor BELDEN.

3. **English Literature, General View.** *First Semester*: Chaucer to Shakespeare. *Second Semester*: Milton to the present. (3). Professor ALLEN; Professor BELDEN; Assistant Professor FAIRCHILD; Dr. SHAW.

4. **English Literature of the Early Nineteenth Century.** *First Semester*: Poets of the Romantic Period; special attention is given to Wordsworth, Coleridge, Byron, Shelley, and Keats. *Second Semester*: Essayists and Critics; the authors stressed are Coleridge, Hazlitt, Lamb, Leigh Hunt, and De Quincey. (3). Dr. REED.

For Undergraduates and Graduates.

5. **English Literature of the Eighteenth Century.** *First Semester*: Dryden and Pope. *Second Semester*: Swift and the Essayists. (3). Professor BELDEN.

7. **Shakespeare.** Six to eight selected plays; class room reading and interpretation. A thesis is required. (3). Assistant Professor FAIRCHILD.

8. **Shakespeare.** The course will be devoted to the critical study of the formal elements of the plays (technique, versification, language, etc.), considered in their organic character, and in their significance for Shakespeare's development. Should be taken in conjunction with or after course 7. (2). Assistant Professor FAIRCHILD.

9. **Tennyson and Browning.** The complete works of Tennyson and most of the poetry of Browning will be studied. (3). Dr. REED.

10. **American Literature.** (a) Sectional development; (b) growth of nationality; (c) present tendencies. The leading writers in prose and verse will be considered, first, as to their intrinsic worth; and secondly, as illustrative of national development. (3). Professor BELDEN.

11. **History of the English Language.** Lectures and text-book. (2). Professor ALLEN.

12. **Anglo-Saxon.** Prose and Poetry. (3). Professor ALLEN.

13. **Middle English.** (2). Professor ALLEN.

14b. **Study of Modern Prose Style, based upon the works of twelve representative authors.** Essays and reports. (2). Professor ALLEN.

Primarily for Graduates.

15. **Beowulf.** The study of the poem will be pursued as an exercise in Old English phonology, in text-criticism, and in the investigation of poetic principles. (2). Professor BELDEN.

20. **Literary Criticism.** The history of critical theory will first be traced in outline and some of the standard works read. This will be followed by more distinctly constructive work, in which the problems of criticism will be considered and an attempt made to determine the grounds of literary judgment. (3). Assistant Professor FAIRCHILD.

21. **The Change of Literary Taste in England in the Seventeenth Century.** An attempt will be made to trace out in some detail the canons of poetry of Jonson, Donne, Herbert and Vaughan, Herrick and the Caroline song-writers, Cowley, and Waller. Special attention will be given to verse form. Monday evenings, 8-10. Professor BELDEN.

22. **The Pre-Shakespearean Drama.** From the beginning of the modern drama in the liturgical plays of the tenth century, through the English miracles, moralities, and interludes, to the immediate predecessors of Shakespeare. (3). Dr. RAMSAY.

23a. **Elizabethan Drama.** History of the earlier Elizabethan Drama; study of the works of Lyly, Kyd, Greene, Peele, and Marlowe. (3). Assistant Professor FAIRCHILD.

24b. **The Later Elizabethan Drama.** The English Drama from about 1600 to the closing of the Theatres. Special attention will be given to the work and influence of Ben Jonson. (3). Dr. REED.

25. **Seminary.** Subject for 1908-09, Chaucer. (2).

Students will be admitted only to such courses as they are prepared for. They should in all cases consult the Professor before making choice of a course.

A special medal, known as the "McAnally Medal," is offered for the best essay, thesis, or poem, by a member of the Senior class. Subject for 1908-09, "John Greenleaf Whittier." See page 108.

For the Field Prize of $100 for the best poem, see page 109.

Freehand Drawing.

Assistant Professor ANKENEY (in charge).

2. **Representation.** An introductory course giving a general survey of delineation. The principles and theories are presented in lectures with some collateral reading. Practice in drawing with pencil, pen and ink, wash, and in painting with water colors. Three times a week—two lectures with home work and one laboratory period. (3).

During the *second semester* the experimental practice in course 2 is differentiated somewhat to suit the needs of individuals students. Those taking this course as a direct aid to other University courses, should so inform the Instructor.

3. **Design.** The theory of design; design as fundamental to the fine arts (architecture, painting, sculpture) and crafts; the principles and bases; evolution in design. Lectures, reading, study of examples, original exercises. (3).

5. **Construction.** Consideration of past and present usage in the artistic construction of the human figure. Lectures, study of examples and reading. Drawing and modeling from casts and life. A three-hour course with one lecture, two drawing laboratory periods of two hours each, one composition and one sketch laboratory. The department maintains a sketch club on Tuesday evenings, 7 to 9, and students in courses 5 and 7 may offer this as an equivalent to the sketch laboratory period. Subjects for composition are assigned twice each month. (3).

7. **Painting.** Style, theory and methods of various schools and movements. Lectures, study of examples and reading. Experimental practice in painting from still life and life with work in original composition. (3).

Geology and Mineralogy.

Professor MARBUT; Dr. EMERSON.

For Undergraduates.

1. **General Geology.** This course is designed to meet the requirements of students in Engineering and such students in the College of Arts and Science as intend to take up any of those occupations which are intimately connected with the materials of the Earth's crust, such as mining, real estate dealing, geological survey-

ing, topographic surveying, forestry or agriculture. The course deals with the constituents of the Earth's crust, their arrangement and distribution, and with the action of the geological processes. The laboratory and field work will include the mapping, geologically, of an area of five square miles in the vicinity of Columbia, and the study of the important minerals and rocks of the Earth's crust. An elementary course in Chemistry is a prerequisite. (3).

2. **Physiography of North America.** A detailed study of the anatomy and morphology of the American continent, with especial reference to the United States. It is designed to meet the requirements of students who are specializing or intend to specialize in History, Economics, Sociology, or Geography. (2). Professor MARBUT; Dr. EMERSON.

3a. **Crystallography.** An elementary course in the Principles of Crystallography for students in Chemistry, Physics, or Geology. (2). Professor MARBUT.

3b. **Physiography of Europe.** This course treats the European continent in the same way that course 2 treats the American continent. It is designed to meet the needs of the same class of students. (3). Professor MARBUT; Dr. EMERSON.

4a. **The Geology of Soils.** A study of minerals, rocks, earth structure, rock decomposition, soil distribution and character. *Seniors in Agriculture.* (3). Professor MARBUT.

5. **The Principles of Geology.** This is a lecture, library, and laboratory course of study in the broad general principles of Geology. It is designed to meet the needs of students in the College of Arts and Science, who desire a knowledge of the principles of the subject but who do not desire to take a more technical course of laboratory training. (3). Dr. EMERSON.

6a or 6b. **Geology for Engineers.** In this course the phases of the subject dealt with are: minerals, rocks, microscopic mineralogy, earth structure, and topography. (3). Professor MARBUT, and Mr. ———.

7a or 7b. **Physical Geography.** A course in General Physical Geography having about the same relation to the other Physiography courses that General Geology has to the more special Geological courses. It will deal with the scope, principles and methods of study and treatment in the field, library and laboratory. (3). Dr. EMERSON.

Courses 2, 3b, and 7a or 7b are adapted to the needs of students who are preparing to teach Physical Geography in the high schools of Missouri.

Students who desire a certificate from the Teachers College in which Physical Geography is named are advised to elect, in addition, courses 5 and 8 in Geology, and 29a in Education.

For Undergraduates and Graduates.

8. **The Principles of Geography.** A course of lectures and library work on the fundamental principles of Geography as taught by Ratzel, MacKinder and other modern geographers. Courses 2 and 3b are prerequisites. (2). Dr. EMERSON.

9a or 9b. **Palaeontology.** This course is intended to serve two purposes; (1) to give a general idea of life development as shown by fossils; (2) to show the use of fossils in identifying the main geological formations. It is designed to serve as a supplement to the courses in Biology, giving an idea of the progressive development in time of organic life. A knowledge of General Biology is a prerequisite. (3). Dr. EMERSON.

10. **Modern Problems in Structural Geology.** A lecture and library course based on the work of Suess in "Das Autlitz der Erde." (2). Professor MARBUT.

For Graduates.

Opportunity for doing research work in Geology will be given to anyone prepared to do it. This work may be pursued along geological or geographic lines, and by either experimental or field methods.

Germanic Languages.

Professor ALMSTEDT; Professor HOFFMAN; Assistant Professor STEWART; Dr. BEK.

For Undergraduates.

1. **Beginning Course in German.** Text: Thomas's Practical Grammar, Vos's Essentials of German, Vos's Materials for German Conversation, easy prose-readings. (3). Professor ALMSTEDT; Professor HOFFMAN; Assistant Professor STEWART; Dr. BEK.

1a. **Beginning Course in German.** Same as course 1. Five times a week. The student finishes German 1 in *one semester* and continues with 2b, thus completing courses 1 and 2 in one year. (6).

1b. **Beginning Course in German.** Same as course 1a. Repeated.

2. **Course in German Reading, Syntax and Composition.** *First semester*: Reading from authors like Storm, Hauff, Baumbach, Freytag; on the basis of the text, drill in grammar (questions and answers in German), German dictation, study of the German idiom. *Second semester*: Intensive composition work. This will lead to German theme-writing. Prerequisite, course 1. (3). Professor HOFFMAN: Assistant Professor STEWART; Dr. BEK.

2a. **Course in German Reading, Syntax and Composition.** Same as course 2. Five times a week. The student finishes course 2 in one semester. (6).

2b. **Course in German Reading, Syntax and Composition.** Same as course 2a. Repeated. (6).

3b. **Scientific German.** This course has been specially arranged for the student of science who is interested mainly in a reading knowledge of German. It takes the place of the intensive composition work of the *second semester* of course 2. Prerequisites: course 1, and the first semester of course 2. (3). Assistant Professor STEWART.

4a. **Advanced Reading Course.** Primarily a course in extensive reading of more difficult German prose; language-drill of courses 1 and 2 continued; German essays. Prerequisites: Courses 1 and 2. (3). Professor HOFMAN; Dr. BEK.

4b. **Masterpieces in Modern German Drama and Lyrics.** Intensive study, from the literary and cultural side, of a number of carefully chosen Modern German dramas and lyric poems. Parallel reading and reports. (3). Dr. BEK.

For Undergraduates and Graduates.

5a. **Outline Course in German Literature.** The aim of the course is to acquaint the student with the most important works and movements in the evolution of German literary life. (3). Dr. BEK.

6. **Lessing.** Lectures on Lessing's life and works; intensive study of Lessing the dramatist and the critic; essays written in German. Course conducted in German. (3). Assistant Professor STEWART.

7. **Schiller.** This course will consist in the study of Schiller's Jungfrau von Orleans, Maria Stuart, Braut von Messina, Wilhelm Tell, Wallenstein; essays in German, based on the texts; Lectures on Schiller's life and works. Course conducted in German. (3). Professor HOFFMAN.

8. **Goethe.** Lectures on Goethe's life and works; intensive

study of Goethe's prose, poetry, and dramas; essays written in German. Course conducted in German. (3). Professor ALMSTEDT.

9b. **Outline Course in Historical Grammar.** This course, together with 4a, is arranged to meet the needs of the prospective teacher of German. Though a knowledge of the older periods is desirable, it is not required. (3). Assistant Professor STEWART.

10b. **Deutsche Aufsaetze und Stiluebungen.** Advanced course in German theme-writing; discussions of grammatical, syntactical, and stylistic points. This course is intended for teachers of German, or for students who propose to become teachers of German; conducted in German. (2). Professor HOFFMAN.

Der deutsche Klub. The students in the Department of Germanic Languages and others who are interested are invited to join the German Club. Its exercises embrace German essays, declamations, short comedies, songs, practice in parliamentary usage, conversation. Meetings twice a month in The Ladies' Parlor, Academic Hall. For notices, see Bulletin Board, "Der deutsche Klub," in corridor of Academic Hall.

Primarily for Graduates.

11. **German Literature of the Second Half of the 19th Century.** This course will consist of lectures and reports. During the first semester Hebbel, Ludwig, Freytag and Wagner will be especially emphasized. The minor authors will be treated in lectures. The second semester will be devoted to a study of the realistic writers of Germany, especially Hauptmann, Sudermann, Wildenbruch and Fulda. The foreign influence on these writers will be carefully considered. (3). Dr. BEK.

12b. **Romanticism.** This course is intended to comprise an intensive study of German romanticists and their works; and to show the relation of the Romantic movement to similar ones in other literatures. (3). Professor HOFFMAN.

13a. **The Reformation and Renaissance (1500-1750).** This course is to give the student a clear view of the development and decline of the literary tendencies, forms and ideals of this period, and the influences that helped to develop them or to accelerate their decline. (3). Professor HOFFMAN.

14. **Middle High German** (Introductory Course). *First semester*: Hartmann von Aue. *Second semester*: Walther von der Vogelweide. Discipline in phonology, morphology, syntax; comparison of mediaeval with modern idiom; a study in lyric poetry. (3). Professor ALMSTEDT.

15b. **History of the Nibelungenlied.** This course is to comprise a study of the various theories as to the origin and authorship of the poem, the controversies in regard to it, and its relation to the Nibelungensaga and other sagas. A reading knowledge of Middle High German is required. (3). Professor HOFFMAN.

16. **Old High German.** Phonology and forms; critical reading of Old High German texts. Prerequisite: Course 16. Texts: Braune, Althochdeutsche Grammatik and Althochdeutsches Lesebuch. (3). Professor ALMSTEDT.

17. **Gothic.** Phonology, morphology, and syntax; reading from Ulfilas; the relationship of Gothic to Indo-European and to later Germanic dialects, general introduction to the study of Germanic Philology. (3). Assistant Professor STEWART.

18. **Seminary.** Subject to be determined. For special students only.

The above courses have been definitely planned to be given during 1908-09. Any other courses in Germanic Languages and Literatures will be arranged if the needs of the student require it.

Greek.

Professor MANLY; Assistant Professor CROSBY.

For Undergraduates.

1. **Elementary Greek.** This course is intended for students who have not had an opportunity of studying Greek in the schools where they were prepared, or who have neglected to do so. Thorough drill will be given in forms, and in the fundamental principles of syntax, by daily written and oral exercises. Stress will be laid on the early acquisition of vocabulary with a view to taking up as soon as possible the reading of some easy Greek. Texts: Ball's Elements of Greek, and Gleason's Gate to the Anabasis, or Moss' Greek Reader. (3). Professor MANLY.

2. **Xenophon's Anabasis.** The first four books of the Anabasis will be read with the necessary study of the historical setting. A thorough review will be given of the syntax, and of the Attic forms as a basis for future work in the department. Texts: Goodwin and White's Anabasis; Pearson's Greek Prose Composition; Goodwin's Greek Grammar. (3). Assistant Professor CROSBY.

3. **Lysias and Homer.** *First Semester*: Selected Orations of Lysias. Together with the translation and the necessary grammatical review, the style of Lysias and his place in Greek oratory

will be discussed. Attention will be given to the history of the period and to court procedure at Athens in so far as it is necessary to an understanding of the orations read. Texts: Wait's Orations of Lysias; Bridgmann's Parallel Exercises in Lysias. (3). Assistant Professor CROSBY.

Second Semester: Homer's Odyssey. The work will include a study of the dialect of Homer, the reading of four or five books, special attention being given to reading metrically, and, in addition, the reading of the rest of the poem in English translation, together with discussions of the manners and customs of the Homeric Age. Many photographs and stereopticon slides are used in illustrating the subject. Texts: Perrin and Seymour's School of Odyssey I-IV, IX-XII, and Jebb's Introduction to Homer. (3). Professor MANLY.

4a. **Greek Tragedy.** The origin and development of Greek tragedy will be considered, and special study will be made of Aeschylus' "Prometheus Bound," and Sophocles' "Antigone." This course should be accompanied by the course in Greek Theater (13a). (2.) Assistant Professor CROSBY.

5b. **Demosthenes.** The Philippic and Olynthiac orations will be read. Attention will be paid to the author's place in the field of Greek oratory, and the student is expected to familiarize himself thoroughly with the political situation of the times. (2). Assistant Professor CROSBY.

6a. **History of Greece to the Roman Conquest.** This course deals with the political, social, and intellectual history of the ancient Greeks. Botsford's History of Greece will be used as an outline, but reading will be assigned in the larger histories, and in translations of Herodotus, Thucydides, Xenophon, and other Greek writers. The work will be illustrated by maps, photographs, and stereopticon slides. A knowledge of the Greek language is not required for this course, and it may be counted toward a major or a minor in either Greek or History. (3). Assistant Professor CROSBY.

6b. **History of Greece to the Roman Conquest.** This is the above course repeated for students who enter the second semester and for others who may elect it. (3). Assistant Professor CROSBY.

7a. **Greek Prose Composition.** A thorough review of the forms and of the syntax will be given by means of written exercises. This course is especially adapted to students who expect to apply for the Rhodes Scholarship, or to teach Greek or Latin. (2). Professor MANLY.

8a. **Homeric Life.** This course will deal with the civilization of the Greeks of the Homeric age, discussing their manners and customs as revealed in the literature and remains. The literature will be studied in English translation. (1). Professor MANLY.

9a. **Greek Mythology.** The aim of this course will be to familiarize the student with the myths of Greece as being necessary to a proper appreciation of literature in general. The work will be adapted especially to the needs of students of English and of Greek literature. Gayley's Classic Myths will be used as a text, and selected pieces of English literature and of Greek literature in English translation will be read for purposes of illustration. (2). Professor MANLY.

10. **Greek Life.** The manners and customs of the Ancient Greeks are dealt with in detail, such as early childhood, toys and sports, education, houses, furniture, dress, athletics, marriage, death, burial, etc. The work consists of lectures, assigned readings, and reports, and is illustrated by maps, charts, photographs, and stereopticon views. (2). Professor MANLY.

11b. **Greek Literature in English Translation.** This course is especially designed for non-classical students who desire to obtain a knowledge of Greek literature and of its influence on Roman and modern literatures. The work will be based on a text-book with assigned readings in the standard translations of the most important Greek Classics. (3). Professor MANLY.

12b. **New Testament Greek.** The purpose of this course is to consider the language of the New Testament compared with Attic Greek. For this purpose selected portions will be read and considered in class, while other portions will be assigned for private reading. (2). Professor MANLY.

For Graduates and Undergraduates.

13a. **The Greek Theater.** The origin and development of the Greek Theater will be considered, and disputed points in the structure of the theater and in the presentation of plays will be discussed. The basis of the work will be Doerpfeld and Reisch's *Das Griechische Theater.* (1). Professor MANLY.

14b. **Aristophanes.** Selected comedies will be read, and the origin and development of comedy will be considered. Attention will also be given to the life of the people as revealed in the plays (2) or (3). Assistant Professor CROSBY.

Primarily for Graduates.

15. **Hesiod, Homeric Hymns, and Apollodorus.** This course will deal with the Greek idea of the origin of the world, gods, and men, and the early conception of the universe, together with the later developments of the myths. (3). Professor MANLY.

16. **Homer.** The whole of the Iliad and Odyssey will be read during the year with especial attention to the antiquities. A special subject will be assigned each student for investigation. Teubner text editions of the poems should be secured in advance. (2) or (3). Professor MANLY.

17a. **Historical Greek Grammar.** This course will be devoted to study of the principal Greek dialects in their relationship to one another, covering general questions of phonology, the inflection of noun and verb, and kindred matters. The work will consist of lectures, the reading and interpretation of dialectic inscriptions, and reports on special topics to be assigned from time to time. The student will provide himself with Solmsen's *Inscriptiones Graecae ad Inlustrandas dialectos selectae.* Other works used in the course will be found in the General Library. (2) or (3). Assistant Professor CROSBY.

18b. **Plato.** The Protagoras, Meno, Phaedo, and Phaedrus will be read, in part or entire. The course is intended primarily for those who have a ready reading knowledge of Greek of the classical period. Peculiarities of style and diction will be commented on as occasion demands, but more stress will be laid upon content. Attention will be paid to the author's place in philosophy, and the student is referred for an account of his predecessors to Zeller's Larger *History of Greek Philosophy.* (2) or (3). Assistant Professor CROSBY.

19. **Seminary.** This work will be conducted jointly by Professor Manly and Assistant Professor Crosby, and will be adapted to the needs of the graduate students in attendance.

History.

Professor TRENHOLME; Professor VILES; Dr. ECKHARDT; Mr. GROMER; Mr. VAUGHN; Dr. STEPHENS; Mr. PERKINS.

The undergraduate courses in History are arranged and numbered in the order in which they should ordinarily be taken. The course in European History is introductory to all other courses in the Department. No advanced standing in History will be granted

for courses taken in the regular high school course; and students who apply for advanced standing must, as a rule, have had equivalent college or university work. Students who are aiming to become high school teachers of History are especially recommended to elect courses 1, 2, 3, and 4 in the following list, Political Science 1 or 2b, and the Greek and Roman History courses given in the classical departments.

For Undergraduates.

1. **European History.** An introductory course, in which the history of the nations of Europe during the medieval and modern periods will be dealt with in as broad and comprehensive a manner as is consistent with thoroughness of knowledge and definiteness of outline. The course will be conducted by means of informal discussions, recitations, hour quizzes, and examinations at the middle and the end of each semester. Students should possess Trenholme's Syllabus of the History of Western Europe, Robinson's History of Western Europe, and the same author's Readings in European History (Abridged Ed.). This course is required of all students who wish to take other courses in History, Economics, Political Science and Public Law, Sociology, and Pedagogy, and is strongly recommended for those intending to take courses in the History of Art. (3). In the second semester this course is given as a five-hour course, complete in itself for the accommodation of new students. Professor TRENHOLME; Dr. ECKHARDT; Mr. VAUGHN; Dr. STEPHENS; Mr. PERKINS.

2. **English History.** A general course dealing with the political, social, and institutional history of the English people from the earliest times to the present day. Cheyney's Short History of England will be used as the basic text, and his Readings in English History as a companion to the text. The instruction will be in the form of informal discussions and recitations, with occasional hour examinations, and a final examination at the close of each semester. Those taking this course should already have some knowledge of general European History. (3). Professor TRENHOLME; Mr. VAUGHN; Mr. PERKINS.

3. **American History.** A general course on the exploration and settlement of North America, the French and English colonies, the American Revolution, and the United States. Hart's Essentials of American History will be used as the text, and instruction will be in the form of informal discussions and recitations on the text-book and assigned reading, with written quizzes and examinations. Those taking this course must have had at least the first semester's work in

course 1. This course is given as a five-hour course in the second semester for the benefit of new students. (3). Professor VILES; Dr. STEPHENS.

4. **Modern European History.** A course designed for students who enter well prepared in general European History. The political, social, and institutional history of Europe from the close of the Thirty Years War to the present time will be carefully studied from secondary works and sources, with special attention to the period of French ascendency, the rise of the great modern states, their causes, events, and results of the French Revolution, the Napoleonic era, and the development of nationality and constitutional government in the nineteenth century. Robinson and Beard, Historical Development of Modern Europe, will be used as a text. (3). Dr. ECKHARDT.

For Undergraduates and Graduates.

10. **Constitutional History of England.** A course in which the institutional side of English History is especially emphasized and the growth of government and law will be given prominence in connection with the narrative history. Students from the Department of Law and those intending to specialize in English History should elect this course. (3). Mr. PERKINS.

11. **History of the United States.** A course for well prepared and advanced students in the political and narrative history of the United States since 1763, taking up the development of parties and political ideals, foreign relations, territorial expansion, the slavery question, and the general development of the nation. (3). Professor VILES.

12a. **History of England During the Tudor and Stuart Periods.** A course on the political and constitutional history of England from 1485 to 1688. The English Reformation, the character and the machinery of Tudor despotism, the Puritan movement, particularly in its social and political aspects, the Restoration, and the revival of parliamentary government in 1688, will be the main topics of study. (3). Professor VILES.

13b. **Modern England.** The political and constitutional history of England since 1688. Especial attention will be given to the rise of parties, to the development of cabinet government, and to Parliamentary Reform in the nineteenth century. No text-book will be used, but there will be assigned reading and weekly written tests, as well as oral quizzes and discussions. (3). Professor TRENHOLME.

14a. **History of the West.** A course in advanced American history dealing with the growth of the west in political and economic importance. Especial attention will be given to the history of the Mississippi valley, and such topics will be treated as the causes and history of the westward migration, frontier life and ideals, the development of territorial and state governments, public lands and public improvements, racial elements in the population, and the reaction of the middle west on national politics and history. This course will be conducted by means of lectures and topical discussions based on assigned readings. Two or three hours credit. Professor VILES.

15b. **History of Missouri.** After a brief survey of French exploration and colonization in the Mississippi valley, of the Spanish regime, and the early settlements, the Louisiana Purchase and its causes will be taken up in more detail. The primary aim of the course, however, will be to give an account of the development of Missouri since 1803, of the progress of settlement, and of the political and narrative history. Every student will be expected to prepare several reports. This course must be preceded by a course in United States history. Two or three hours credit. Professor VILES.

16a. **History of Modern Colonization.** The purpose of this course will be to trace in outline the extension of the power of the nations of western Europe in other continents. The character and purposes of the colonial policies of these nations, and the narrative history of the more important colonies in America, Asia, and Africa will be dealt with. Two or three hours credit. Dr. ECKHARDT.

17b. **Topics and Studies in Nineteenth Century History.** A course having for its object the investigation of special topics of importance in connection with recent European history. Topics will be selected with reference to the resources of the library, and the course will be conducted by means of lectures, reports, discussions, and quizzes. Two or three hours credit. Dr. ECKHARDT.

18a. **History of Germany to the Close of the Protestant Revolt.** A course especially designed for students of German language and literature who wish a general knowledge of German history. The origin and early history of the people of Germany will be first taken up and then a careful study made of the policies, institutions, society and commerce of the German portion of the Holy Roman Empire, and finally, the story of the Protestant Revolt in Germany will be carefully studied to the religious peace of Augsburg in 1555. A reading knowledge of German while desirable will not be essential. (2). Dr. ECKHART.

19b. **History of Germany Since the Protestant Revolt.** A con-

tinuation of Course 18a, in which the modern history of Germany will be covered in as thorough a manner as possible. The causes, events, and results of the Thirty Years War, the rise of Prussia, and her part in eighteenth century history, Germany and Napoleon, and the formation of the present German Empire will be among the chief topics considered. (2). Dr. ECKHARDT.

20a. **History of France to the Sixteenth Century.** This course deals with French history from the Treaty of Verdun to the reign of Francis I. The leading events of the period and the chief features of constitutional development willl be treated in detail, special emphasis being laid on the rise and development of the French Monarchy. Ability to read French will be desirable but not essential. May be taken for two or three hours credit. Mr. VAUGHN.

21b. **History of France since the Sixteenth Century.** This course will be a continuation of 20a, and will deal with the political and institutional history of France from about the year 1500. May be taken for two or three hours credit. Mr. VAUGHN.

22a. **American Social History: Colonial Period.** A study of the development of American society from the founding of the first settlements and colonies to the Revolution. Especial attention will be given to manners, customs, and social institutions generally and an effort made to trace the growth of the colonial population in civilization. May be taken for two or three hours credit. Professor VILES.

23b. **American Social History: United States Period.** A continuation of course 20a, dealing with the history of American society since the revolution. May be taken for two or three hours credit. Dr. STEPHENS.

24a. **The Culture and Civilization of the Middle Ages.** A course dealing with the history and development of culture and civilization among the new nations of Europe and in the territories of the old Roman Empire during the mediaeval period. Special attention will be paid to educational, literary, social, and religious aspects of the age. This course logically precedes courses 25b and 26b. May be taken for two or three hours credit. Professor TRENHOLME.

25b. **The Culture and Civilization of the Renaissance.** A course dealing with the rise of Italian Humanism and the spread of the Renaissance throughout Europe generally. Special attention will be given to the literature, religion, society, and art of the period. Symond's *Short History of the Renaissance* and VanDyke's *Age of the Renaissance* are recommended as hand books for students. Stu-

dents who elect this course are advised to take also course 11, in the History of Art. May be taken for two or three hours credit. Professor TREHOLME.

26b. **The Era of the Reformation.** A survey of the causes, events, and consequences of the religious revolutions of the sixteenth century, with special attention to the influence of the German Reformation on politics and society. Attention will be directed to the political, social, and economic aspects of the period as well as to the religious changes. (3). Mr. PERKINS.

Courses 25b and 26b will usually be given in alternate years. In 1908-09 Course 26b will be given.

28a. **Diplomatic History of the United States.** A study of the foreign relations of the United States from the close of the Revolution to the present time. Special attention will be given to the relations with France and England during the formative period, to the Monroe Doctrine and its subsequent development, to relations with the Latin-American states, and to questions connected with the Civil War and the expansion following the Spanish American struggle. Two or three hours credit. Dr. STEPHENS.

30a. **Historical Method and Bibliography.** A course of training for advanced students of history in the nature of historical research, the methods to be used, auxiliaries to historical study, use of documents, etc. (2). Professor TRENHOLME; Dr. ECKHARDT.

For Graduates.

32a. **English Constitutional and Legal History to the Norman Conquest.** An advanced course of a pro-seminar character in which a study is made of early English institutions from the sources and best secondary works. Lectures, reports, and discussions. One, two, or three hours credit. Professor TRENHOLME.

33b. **English Constitutional and Legal History Since the Norman Conquest.** A continuation of course 32a, dealing with later English institutions. One, two, or three hours credit. Professor TRENHOLME.

34a. **American Colonial Institutions.** A course on the development of representative institutions, local government, the judiciary, etc., from their origins in English institutions of the sixteenth and seventeenth centuries to the Revolutionary war. The aim of the course is to trace the growth of the political institutions and ideals underlying the present government of the United States. Reports will be required from every student from time to time. This course should

be preceded by the narrative course on the Colonial Period. Two or three hours credit. Professor VILES.

35b. **Advanced United States History.** A study of selected topics in United States History. Lectures, discussion, and reports by the class. Two or three hours credit. Professor VILES.

36. **Research Studies in European Culture.** An advanced course of pro-seminar character, open to students who are qualified to pursue graduate work. Reports will be assigned from time to time in the history of Mediaeval and Renaissance culture and extensive reading in sources and secondary literature will be required. One, two, or three hours credit. Professor TRENHOLME.

40. **Seminary in Missouri History.** A course affording opportunity for investigation in Missouri History. Every student will be expected to investigate from the sources some topic in the narrative or political history of Missouri, to embody the results of his study in written form, and, at the option of the instructor, report to the class. In the assignment of topics preference will be given, as far as possible, to the interests and leanings of the individual student. One to four hours credit. Professor VILES.

41. **Seminary in American History.** A research course in selected topics in American Colonial History and the political and institutional development of the United States. In the assignment of topics an effort will be made to follow the individual preferences of students. One to four hours credit. Professor VILES.

42. **Seminary in English, Social, Institutional, and Legal History.** A course affording opportunity for original research in these fields for graduate credit or a higher degree. The University Library and the Law Library both contain valuable material for research work in English History. One to four hours credit. Professor TRENHOLME.

43. **Seminary in Medieval History.** A research course in which students will be required to investigate some special topic in the history of the Middlle Ages, to be selected by the instructor and student. Some knowledge of Latin will be requisite, and ability to use French and German will be desirable. One to four hours credit. Professor TRENHOLME and Mr. PERKINS.

44. **Seminary in Modern European History.** This course will afford an opportunity for well prepared students to follow out some special line of research in the field of modern history. The topics will be carefully selected by the Instructor to meet the conditions of library resources. A knowledge of at least one modern language, other than English, will be absolutely necessary in this course. One to four hours credit. Dr. ECKHARDT.

Latin.

Professor JONES; Assistant Professor JOHNSTON; Dr. CANTER.

For Undergraduates.

1. **Sallust, De Bello Iugurthino, and Vergil.** Knapp's Vergil; Allen and Greenough's Latin Grammar; Guerber's Myths of Greece and Rome. (3). Assistant Professor JOHNSTON; Dr. CANTER.

1a. **Cicero and Vergil.** *First Semester*: Selected orations and letters of Cicero; de Senectute. *Second Semester*: Vergil's Aeneid. (3). Dr. CANTER.

2. **Latin Prose Composition.** (Elementary Course). (1). Dr. CANTER.

3. **Livy and Horace.** Texts: Burton's Selections from Livy; Shorey and Kirkland's Horace; Allen and Greenough's Grammar. Must be preceded by course 1. (3). Assistant Professor JOHNSTON; Dr. CANTER.

4. **Latin Prose Composition.** (Second Course). Texts: Gildersleeve and Lodge's Latin Composition. Must be preceded by course 2. (1). Dr. CANTER.

5. **Roman Public and Private Life.** (a) Cicero and Pliny, selected letters; (b) Juvenal and Martial. Must be preceded by courses 1 and 3. (3). Professor JONES.

7. **Rapid Reading.** Selections from the historians and the poets. Must be preceded by courses 1 and 3. (3). Assistant Professor JOHNSTON.

12b. **History of Rome to the Fall of the Empire in the West.** This course will treat of the rise and development of the Roman State, with special reference to the politics, society, and culture of the Romans. No knowledge of Latin is required. This course may be counted for a major or a minor in either Latin or History. (3). Dr. CANTER.

For Undergraduates and Graduates.

6. **Catullus, Martial, and the Elegiac Poets.** Must be preceded by courses 1, 3, and 5. (3). Dr. CANTER.

9. **Roman Drama.** (Plautus and Terence). Must be preceded by courses 1, 3, and 5. (3). Not offered in 1908-09. Assistant Professor JOHNSTON.

10. **(a) Tacitus, Annals; (b) Seneca.** Must be preceded by courses 1, 3, and 5. (3). Dr. CANTER.

11. **Roman Literature. Characteristic selections.** Must be preceded by courses 1, 3, and 5. (3). Assistant Professor JOHNSTON.

20a. **Introduction to Latin Palaeography.** Includes the reading of facsimiles. (1). Dr. CANTER.

20b. **Introduction to Latin Epigraphy.** Includes a study of representative inscriptions. (1). Dr. CANTER.

23b. The Elements of Oscan and Umbrian. (3). Not offered in 1908-09.

Primarily for Graduates.

15. **Seminary.** Critical study of the Odes of Horace. Professor JONES.

17. **Seminary.** The Hecyra of Terence. (3). Assistant Professor JOHNSTON.

18. **Cicero.** Rhetorical Writings. Each member of the class will be assigned a linguistic subject for investigation. (2). Assistant Professor JOHNSTON.

19. **Lucretius.** An interpretation of the De Rerum Natura with special reference to the literary models and sources followed, the language and the technique of the poem, manuscripts, editions, etc. (3). Dr. CANTER.

21. **Roman Epigram.** Its rise and development as a department of literature. (2). Dr. CANTER.

Mathematics.

Professor HEDRICK; Assistant Professor KELLOGG; Assistant Professor AMES; Assistant Professor WESTFALL; Dr. INGOLD; Dr. DUNKEL; Miss WALKER; Mr. SILVERMAN; Mr. HEDGES; Miss PAINE; Miss LIEPSNER.

(No student will be recommended for advanced credit in any course in Mathematics without examination, except from the colleges of the Missouri College Union, and from certain universities outside the state. An examination, which will be set some time in October, will be open to students who show certificates of having satisfactorily completed the work in an accredited school.)

For Undergraduates.

A. Primarily for Freshmen.

Courses 2 and 4 are required of Engineers, but these courses may and should be taken also by students in the College of Arts and Science who desire more work in Mathematics.

1. **Short Freshman Mathematics** (consisting of):
   - 1a. *Plane Trigonometry and Review Algebra.* (3).
   - 1b. *Plane Analytical Geometry.* (3).

This is the (shorter) standard preparation for Sophomore work. The semesters may be elected separately; course 1a may be followed by course 2b below; and course 1b may follow course 2a. (Four sections.) (3). Texts, rooms, and instructors posted in advance.

2. **Extended Freshman Mathematics** (consisting of):
   - 2a. (I) *Plane and Spherical Trigonometry* (3). (II) *Review and Advanced Algebra* (2). (5).
   - 2b. *Plane and Solid Analytical Geometry and Introduction to Calculus.* (5).

This (longer) standard preparation for Sophomore work should be taken, if possible, by students who are inclined toward Mathematics. But 2b may be elected independently. (Eight sections.) Texts, rooms, and instructors posted in advance.

3. **Freshman Fast Course** (consisting of):
   - 3a. *Plane Analytical Geometry and Introduction to Calculus.* (3).
   - 3b. *Differential and Integral Calculus.* (3).

Students who enter with Trigonometry and who are strong in Mathematics may elect this course; it will cover the ground of 1b and 5 rather more rapidly. Students taking this course may proceed to other courses as if they had taken course 5. (One section.) Text, room, and instructor posted in advance.

1Rb. **Repeating Trigonometry.** Repeats course 1a in the *second semester.* (3). One section.

2Ra. **Repeating Analytical Geometry.** Repeats course 2b in the *first semester.* (5). One section.

2Rb. **Repeating Trigonometry and Algebra.** Repeats course 2a in the *second semester.* (5). One section.

B. *Primarily for Sophomores.*

4. **Extended Course in Calculus.** An extended course in Calculus proper, including also, special supplementary work in Differential Equations and in Mechanics. Students inclined toward Mathematics should elect this course; in it they can decide whether or not they can succeed in further work in Mathematics. A slight knowledge of the first formulae, as given in course 2b, is presumed; but students who have done well in course 1b may enter course 4. Students who have had course 3 or course 5 may profitably enter the *second semester* of course 4. (5). Students desiring to do special work may elect this course for six hours; these students will meet at an extra hour. Six sections. Texts, rooms and instructors posted in advance.

5. **Short Course in Calculus.** This course contains the essentials of the Calculus, a few applications, supplementary work in Analytic Geometry. Many difficult theorems and problems are purposely omitted. Students intending to make Mathematics a specialty should take course 4 instead of course 5. Students who succeed in this course and desire to continue mathematical studies may elect courses 11a and 4b in the following year. (2). Text to be posted in advance. Dr. INGOLD.

4Rb. **Repeating Differential Calculus.** Repeats course 4a (i. e. the first semester of course 4) in the *second semester.* (5). (One section.)

For Undergraduates and Graduates.

(For details see also the Announcement of the Graduate Department.)

10. **Second Course in Calculus.** This course should be selected by all who have reasonably succeeded in Elementary Calculus, who desire to continue mathematical work through another year. It will deal with questions necessarily omitted or treated hurriedly in the first course on Calculus. Goursat-Hedrick, Course in Mathematical Analysis will be used as a text, with explanatory lectures. (3). Professor HEDRICK.

11a. **Theory or Equations and Determinants.** Recitations supplemented by lectures. Texts: Fine, College Algebra; Burnside and Panton, Theory of Equations. This course includes special work in Advanced Algebra. To be elected only with or after the elementary Calculus. (3). Dr. DUNKEL.

11b. **Advanced Analytic Geometry.** Recitations, supplemented

by lectures. The applications of the Calculus and extensions of the elementary course on Analytic Geometry, including Solid Geometry. To be elected only with or after the elementary Calculus, but independently of course 11a. (3). Dr. DUNKEL.

12a. **Elements of Differential Equations.** Recitations, supplemented by reading. Text: Murray's Differential Equations. Open to any who have taken the elementary Calculus. (2). Assistant Professor AMES.

12b. **Elements of Analytical Mechanics.** Open to any who have taken the elementary Calculus. (3). Assistant Professor AMES.

13a. **Elements of Differential Geometry.** Lectures, supplemented by reading. Introduction to the theory of modern differential Geometry. Naturally follows course 10 or 11b. (2). (Alternate years. Given, 1907-08.) Dr. INGOLD.

13b. **Elements of Projective Geometry.** Lectures, supplemented by reading. Election independent of course 13a. (2). (Alternate years. Given 1907-08.) Dr. INGOLD.

14a or b. **Mathematical Laboratory.** A regular class will be conducted, if desired by a sufficient number, in the construction of mathematical models, with explanatory lectures. Hours to be arranged. (No credit can as yet be assigned for this work.) Professor HEDRICK; Mr. ————.

15a or b. **History of Mathematics.** This course will be given if desired by a sufficient number of persons qualified to enter it. (2). Assistant Professor AMES.

16a or b. **The Mathematical Theory of Probability, with Applications to Life Insurance and Statistics.** This course will now be given regularly if elected by a sufficient number promptly. (3).

Primarily for Graduates.

(For details see also the Announcement of the Graduate Department.)

20a. **Modern Algebra.** Recitations, following Bocher, Higher Algebra. The course includes work on Algebraic Invariants. (3). (Alternate years. Given, 1907-08.) Assistant Professor AMES.

20b. **Infinite Series and Products.** Introduction to the Theory of Functions of a Real Variable. Lectures. (3). (Alternate years. Given, 1907-08.) Assistant Professor AMES.

21. **Vector Theory and Multiple Algebra.** Lectures, supplemented by reading. (2). (Alternate years. Given, 1908-09.) Dr. INGOLD.

22a. **Fourier's Series, and Allied Series.** Introduction to Mathematical Physics. Lectures, supplemented by reading. (3). (Alternate years. Given, 1906-07.) Assistant Professor KELLOGG.

22b. **Potential Function.** This course naturally follows course 22a. Lectures, supplemented by reading. (3). (Alternate years. Given, 1906-07.) Assistant Professor KELLOGG.

23. **Theory of Functions of Real Variables.** Higher Analysis. Lectures, supplemented by reading. (3). (Alternate years. Given, 1907-08.) Professor HEDRICK.

24. **Function Theory. First Course.** Theory of Functions of a Complex Variable. Elliptic Functions. (3). (Alternate years. Given, 1906-07.) Professor HEDRICK.

25. **Theory of Differential Equations.** To be preceded by course 7a. *First semester*: Ordinary Differential Equations. *Second semester*: Partial Differential Equations. These may be elected or given separately. (3). (Alternate years. Given, 1906-07.) Assistant Professor WESTFALL.

26. **Theory of Groups, with Applications to Galois' Theory and Lie's Theory.** Lectures and recitations. (2). (Alternate years. Given, 1908-09.) Assistant Professor AMES.

27a. **Partial Differential Equations of Mathematical Physics.** Naturally follows course 22a and 22b. (3). (Alternate years. Given, 1907-08.) Assistant Professor KELLOGG.

27b. **Integral Equations.** This course naturally follows course 27a, but it may be elected separately by special permission. (3). (Alternate years. Given, 1907-08.) Assistant Professor KELLOGG.

The following courses are also offered when the needs of the students seem to warrant:

30. **Theory of Numbers.**
31. **Analytical Mechanics.**
32. **Projective Geometry.**
33. **Theory of Groups.**
34. **Theory of Functions.**
35. **Foundations of Geometry and Non-Euclidean Geometry.**
36. **Calculus of Variations.**
37. **Theory of Differential Equations.**
38. **Mathematical Theory of Sound, or Heat.**
39. **Differential Geometry.**
40. **Theory of Invariants.**

The courses past course 10 are open only to those who have secured the permission of the Instructor in the course, and of the Professor in charge. The courses past course 30 are for rather ad-

vanced Graduate students and are offered only when specially announced.

50. **Research Courses.** The Professors and Instructors will conduct research work along special lines. These courses may only be undertaken with the very special advice of the Professor in charge.

For other courses in mathematical subjects, see Department of Engineering, Teachers College, and courses in Physics.

Mathematical Journal Club. The members of the department and others who desire will form a club for the examination of current literature and for the discussion of mathematical topics. Meetings will be held and reports made each week on a set day. Criticism and comment will then follow; and any subject of interest to the members of the Club will be discussed, as occasion arises. Students in any course for Graduates or for Graduates and Undergraduates may receive *one hour extra credit* in that course by presenting papers before the Journal Club in connection with the course; but this extra hour must be entered on the student's study card in the usual manner.

Philosophy and Experimental Psychology.

Philosophy.

Acting Assistant Professor Elkin (in charge).

For Undergraduates.

1. **Logic.** A study of the fundamental principles of deductive and inductive inference and their practical application, together with an examination of the most general fallacies committed in reasoning. (2).

2a. **History of Greek Philosophy.** A study of the development of speculative thought—the beginnings of philosophy, the causes and conditions of the evolution of philosophical systems, and the significance of philosophical ideas as a factor in human progress—from the rise of Greek civilization to the decline of Roman. Emphasis will be laid on the following subjects: the Atomism of Democritus; the Dialectic of Socrates; the Metaphysics of Plato and Aristotle; the Ethical Theories of the Stoics, Epicureans, and Eclectics; Jewish-Greek Philosophy; and Neo-Platonism. (3).

3a. **Practical Ethics.** An introductory study intended for the general student. The following topics will be discussed: the meaning, function, subject-matter, and method of ethics; virtues and duties; self-control; the bodily life; the economic life; the spiritual life; the

love of honor; benevolence; justice; charity; veracity; the Greek ideal of conduct; the Christian ideal; the modern ideal. (3).

For Undergraduates and Graduates.

4b. **History of Modern Philosophy.** This course is a continuation of 2a. The following movements will be treated: the transition from pagan philosophy to Christian; Patristic philosophy; Scolasticism; the Renaissance and Reformation; the rationalism of Descartes and Leibnitz; the pantheism of Spinoza; the empiricism of Locke and Hume; the critical philosophy of Kant; the idealism of Hegel; the common sense philosophy of the Scottish School; pessimism, positivism; and the philosophy of evolution. Open only to students who have had suitable preparation in Philosophy, or in related sciences. (3).

5b. **Ethical Problems.** An examination of the basal concepts of ethics; the nature of ethics; the ground of right; theories of conscience; duty and obligation; theories of the highest good; hedonism; utilitarianism; intuitionism; energism, egoism and altruism; optimism and pessimism; the problem of evil; the relation of morality to religion; character and freedom. This course is a continuation of 3a, and is intended for students of Philosophy. (3).

6a, 7b. **The Problems of Philosophy.** A consideration of the fundamental problems of philosophy, and a proposed solution. The following subjects will be examined: the nature of philosophy; the relation of philosophy to science, and to religion; atomism and materialism; mechanism and teleology, parallelism and monism; evolution; pantheism; theism; empiricism; rationalism; skepticism; agnosticism; criticism; realism; idealism. (2).

Primarily for Graduates.

8. **Seminary in Metaphysics.** This course is open only to students who have had the necessary preparation in Logic, Psychology, Ethics, and the History of Philosophy. (2) or (3).

EXPERIMENTAL PSYCHOLOGY.

Professor MEYER; Dr. BOSWELL; Mr. SISSON.

For Undergraduates.

1. **General Psychology.** This course is intended to give a general survey of the whole field of Psychology, either as a part of a liberal education or as a preparation for professional study in

Education, Law, or Medicine. The course covers the following ground: Structure and function of the sense organs and the nervous system; sensations, their classification and analysis; perception of space and time; movement and action; attention; memory and the association of ideas; illusions; affection and feeling; emotion and sentiment; will; sleep and dreams; hypnotism; insanity. Texts: Judd's Psychology; Titchener's Experimental Psychology I, Student's Manual. (3).

Students who have previously taken course 1a or 1b receive only two-thirds of the credit.

1a and 1b. **Introduction to Psychology.** Text: Thorndike, Elements of Psychology. This is a briefer course, designed especially for Teachers College students. No laboratory demonstrations. This course does not prepare for the advanced courses in Experimental Psychology. Three hours credit for Freshmen and Sophomores; two hours credit for Juniors and Seniors.

For Undergraduates and Graduates.

These courses are open only to students who have had the course in General Psychology.

2a or b. **Experimental Didactics.** Application of the methods of the psychological laboratory to problems of interest to the educator. (3).

3a or b. **Differential Psychology.** A study of individual differences of character and intelligence, their causes and their practical significance in life, particularly in school, in civil service and in legal practice. (3).

4a or b. **General Esthetics.** An experimental as well as theoretical study of the psychological laws underlying our appreciation of the beautiful, chiefly in the arts of painting, sculpture, and architecture, and also in nature. No familiarity with the technic or history of art is required. The aim of this course is to develop in the student an independent judgment in questions concerning the beautiful. (3).

5a or b. **Theory of Music.** The esthetic law of music; the psychological differences of primitive and highly developed music, of European and exotic music. (3).

6a or b. **Advanced Psychology.** Discussion of the general principles of scientific investigation. Application of these principles in the criticism of modern psychological theories and problems. (3).

7a or b. **Comparative Psychology.** Mental development in

the child and in the race. Experimental methods of child study. Dawning intelligence during animal infancy. Experiments upon the mental processes of animals. Instinct and psychical heredity. Theories of mental evolution. (2).

8a or b. **Abnormal Psychology.** The abnormalities of mental life resulting from inborn, pathological, or artificial causes (such as idiocy, aphasia, somnambulism, hypnosis, etc.), and their educational, medical, and forensic significance. (2).

Primarily for Graduates.

9a or b. **Psychological Seminary and Advanced Laboratory Work.** Critical reading of recent literature. Discussion of special problems and theories. Research work. *Two, three or four times a week.*

Physical Training and Athletics.

Professor HETHERINGTON; Miss ALDEN; Dr. MONILAW; Mr. BURCKHALTER; Mr. EBRIGHT; Mr. ANDERSON; Miss HARTWELL.

The aim of the work in Physical Education is to secure for each student all the educational values that come through motor activities; viz.: (1) a development of the nervous system that gives power and skill for action; (2) a development of organic powers that gives constitutional vigor and comes through the stimulus of muscular exercise; (3) a correction of faulty or debilitated functional conditions; (4) a maintenance by training of a healthful condition for efficient student life; (5) a discipline morally and socially that comes with a systematic hygienic regimen and regulated intensive activities under social conditions.

These values are secured through a comprehensive and systematic use of gymnastic and athletic exercises under a staff of highly trained regular instructors. A splendid plant is devoted to these aims, as follows: two indoor gymnasia, two outdoor gymnasia, eighteen tennis courts, five outdoor basket ball courts, seven play fields for team games, a cinder track, and a golf course.

For their values in college life and for their wide social and moral values to participants, contests in gymnastics and athletics for the more vigorous students are encouraged. Such contests are supported entirely from the educational viewpoint. Special emphasis is placed on a large organization of inter-class and other collegiate teams that will give wide opportunities for large numbers of students. Stu-

dents are made to feel that these opportunities are for them, irrespective of experience or skill.

Inter-collegiate contests are administered from the view point of their educational function in college life. Inter-collegiate teams represent the final stage of selection in an educational process among a large number of students, thus giving both a rational physical educational system and a healthy sporting system. Proselyting, with all its corrupting influences, and professionalism, are discouraged. Sportsmanship is fostered. Teams on trips are always accompanied by responsible instructors. The business management of all gymnastic and athletic contests is in the hands of a General Manager appointed by the Board of Curators and under the supervision of the Director.

The University is a member of the Missouri Valley Conference of Faculty Representatives, and all inter-collegiate contests are governed by the regulations of this body. The Committee on Inter-collegiate Athletics, composed of the Director of Physical Education, the General Manager, five members of the Faculty, two alumni and two seniors, regulates the schedules, finances and eligibility of inter-collegiate teams.

All the work of the Department is based on a thorough physical examination given each student at the beginning of the year. All students, whether taking work in the Department or not, are entitled to a physical examination and advice as to their physical condition.

After this examination students are assigned work according to their physical needs, tastes, and fitness. Delicate students, both men and women, and those suffering from functional disorders, are given individual attention. Students organically sound are assigned work in a carefully graded and progressive system of gymnastics and athletics. No students are allowed to enter advanced or special events in gymnastics or athletics until they have attained the required grade tests. All candidates for athletic teams, class, as well as University, not taking regular work, are required to register with the Director and pass the grade tests.

There is no gymnasium fee, but regulation suits are required for men and for women. Prospective students will find it less expensive and more satisfactory to secure their suits in Columbia according to directions given at the opening of the year.

1. **Developmental and Special Exercises.** Under this course is organized all the various grades of gymnastic and athletic exercises offered by the department. It is open to all students in all schools or colleges of the University during the entire term of residence. The

great variety of exercises offered is intended to meet all individual needs, capacities and tastes. A student's choice of exercises is limited only by physical fitness for the work. A physical examination and test determines the grade or class of exercises for which a student is fitted. The developmental exercises are fundamental, arranged in a progressive system by grades and required of all students until fitted to specialize. The Advanced or Special Exercises are co-ordinated with and a continuation of the Developmental Exercises, and open to all students as soon as fitted to participate in them. All Freshmen and those electing this course for the first time for credit are required to attend a course of ten short lectures given during the first three weeks of the First semester.

Exercises Offered for Men:

A. *Developmental Exercises—*

1. Marching, floor tactics, class evolutions.

2. Graded free exercise and drills, with light apparatus and developing appliances, graded club swinging; introductory graded class exercises in fencing, boxing, and wrestling.

3. Graded apparatus and mat exercises.

4. Introductory graded class and section work in athletic exercises (non-competitive), recreative and outing exercises, form running, sprint starting, jumping, pole vaulting, hurdling, etc.; drills in hand tennis, hand ball, tennis, golf, etc.; association foot ball, and combination ball.

B. *Advanced or Specialized Exercises—*

1. Advanced gymnastics, club swinging, apparatus exercises, tumbling.

2. Combative Exercises: fencing, boxing, wrestling.

3. Athletic Exercises: hand ball, golf, tennis, basket ball, hockey, cross country running, track and field athletics, combination ball, association foot ball, base ball, American foot ball.

In these special branches hours are arranged. Athletic teams practice usually late in the afternoon.

Exercises Offered for Women:

A. *Developmental Exercises—*

1. Marching, floor tactics, class evolutions.

2. Graded free exercises and drills with light apparatus and developing appliances, graded club swinging, dumb bells, etc.; graded balance exercises and dancing.

3. Graded apparatus exercises.

4. Introductory graded athletic exercises; gymnasium games, drills in hand tennis, hand ball, basket ball games, basket ball, volley ball.

B. *Advanced and Specialized Exercises—*

1. Specialized gymnastics; advanced club swinging, advanced apparatus work, fencing, advanced dancing, etc.

2. Athletic exercises: hand tennis, hand ball, captain ball, volley ball, golf, tennis, basket ball, hockey.

In these special branches hours are arranged.

Three times a week. One hour's credit a semester for four semesters for Arts and Science students, Teachers College students, and for Agricultural and Engineering students not taking Military Science and Tactics.

Professor HETHERINGTON; Miss ALDEN; Mr. BURCKHALTER; Dr. MONILAW; Mr. ANDERSON; Miss HARTWELL; Mr. EBRIGHT.

PROFESSIONAL COURSES.

The Professional courses, listed under the Teachers College, are in process of organization. They are intended to train students either as teachers for small high school or play ground positions, or as specialists for larger positions. A detailed statement will be issued concerning these courses later.

Physics.

Professor STEWART; Assistant Professor REESE; Dr. LOVING; Mr. HOWE; Mr. PHILIPPI; Mr. LYNCH; Mr. MORRELL.

For Undergraduates.

Two beginning courses are offered. Those who wish only a general information course should take course 1, while those who have had Trigonometry and who desire a more thorough course should begin by taking course 3. In special cases, students who have had only a good high school course in Physics may be admitted to course 16.

Course 1 is required for entrance to the Department of Medicine; course 3 is required of all students in Engineering; course 4 is required of all students in Electrical Engineering.

1. **General Physics.** This course is intended to cover in an elementary manner the fundamental principles of Physics. It is offered for the benefit of those who wish to acquire some knowledge of the simpler phenomena of Physics. See general statement above.

Three times a week. Two recitations and one laboratory each week. Dr. LOVING.

16. **Electricity and Magnetism.** A non-mathematical course open to those who have taken course 1. It is planned to meet the needs of those who are not yet prepared to take up courses requiring a knowledge of Calculus. Students desiring laboratory work in connection with this course can elect in addition one or two hours of course 8. Those who have had course 3 can not receive full credit for this course. (3). Professor STEWART.

3. **General Physics.** This course covers the same ground as course 1, but in a more thorough manner. An elementary knowledge of Trigonometry is required. This course is divided into two parts: 3A, *four times a week;* and 3B, *twice a week.* 3A may be taken alone, 3B may be taken with 3A or subsequently. Those who have received credit for course 1 or 16 can not receive full credit for course 3.

3A. **Lectures and Recitations.** Lectures, (2). Professor STEWART. Recitations, (2). Assistant Professor REESE; Mr. HOWE; Mr. PHILIPPI.

3B. **Laboratory.** (2). Assistant Professor REESE; Mr. HOWE; Mr. PHILIPPI; Mr. MOREELL; Mr. LYNCH.

For Undergraduates and Graduates.

Students intending to specialize in Physics should also take Mathematics. Even in the less mathematical courses some knowledge of Calculus is of great advantage.

8. **Electricity and Light.** This course is entirely laboratory work and must be preceded by either course 1 or 3. It offers training in the more exact methods of laboratory measurements. The work is entirely individual, so that the time may be spent either on optical or electrical problems. In Light the work is quantitative, consisting of measurements of wave lengths by interference methods, Fresnel mirrors, interferometers, etc.; determinations of refractive indices; study of resolving power of optical instruments and similar problems. In Electricity the work is the same as the laboratory work of course 4. *Once, twice, or three times a week.* Professor STEWART; Dr. LOVING.

4. **Electrical Measurements.** *Two or three times a week.* One lecture and one or two laboratory periods. A knowledge of Calculus is required. Dr. LOVING.

12. **Heat and Light.** Open to those who have completed course 1 or its equivalent. This course is recommended to those who

either intend to teach in high schools or desire work more general in character and less mathematical than courses 5, 6, 7, and 15. (3). Assistant Professor REESE.

17b. **Spectroscopy.** A practical course in the use of various forms of spectroscopes and their applications to physical problems. Open to those who have had course 1 or 3. (3). Assistant Professor REESE.

9. **Advanced Work in General Physics.** This course, largely laboratory work, will be adapted to meet the needs and attainments of individual students. A student may be assigned a definite problem, the literature of which must be studied and the experimental work performed with the care of original research. *Two to four times a week.* Professor STEWART; Assistant Professor REESE.

Primarily for Graduates.

Courses 5, 6, 7, and 15 are courses in Mathematical Physics.

5. **Theory of Light.** Based on Drude's Theory of Optics. Special attention is given to the Electromagnetic Theory. Recitations, lectures and quizzes. (3). Professor STEWART.

7. **Theory of Electricity and Magnetism.** Lectures and recitations. (3). Professor STEWART.

Courses 5 and 7 will not both be given in the same year.

6. **Theory of Heat.** Lectures and recitations. (3). Assistant Professor REESE.

15. **Dynamics.** Introduction to the fundamental principles of Mathematical Physics. (3). Assistant Professor REESE.

10. **Seminary.** Critical reading and discussion of current research work in Physics. A colloquium in which all members of the teaching staff of the department and students of sufficient attainments take part. *Once a week.*

11. **Research Work.** Professor STEWART; Assistant Professor REESE.

Physiology.

Professor GREENE; Dr. GIBSON; Dr. SCHULTZ; Mr. BERGER.

For Undergraduates.

1. **Elementary Physiology.** This course is intended for students who desire a general knowledge of the Physiology and Personal Hygiene of the human body. It is especially recommended also for students of Sociology, Psychology, or Education. The circulation,

respiration, digestion, and absorption will be given the *first semester,* and metabolism, muscle, nervous system, and sense organs the *second semester.* Laboratory fee, $4. (3). Dr. SCHULTZ.

2a. **Experimental Physiology.** The physiology and physiological chemistry of the proteins; of muscle, nerve, and connective tissues; of blood, secretions, digestion, absorption, intermediary metabolism, and excretions; of nutrition, heat production, and heat regulation. A metabolism experiment with a complete quantitative examination of the urine is required. (4). Laboratory charge, $4.00. Dr. GIBSON.

3a. **Experimental Physiology.** The physiology of muscle and nerve, circulation, respiration, nervous system, and sense organs. (6). Laboratory charge, $4.00. Professor GREENE, Dr. SCHULTZ.

For Undergraduates and Graduates.

4b. **Physiological Chemistry.** An advanced course supplementing and extending course 2a. The preparation and chemistry of the proteins. A qualitative, and to some extent, quantitative study of the tissues and secretions, of enzymes, and of putrefactive products; analysis of foods and food preservatives. The carrying out of a short investigation and formal report on the same is required. (4). Laboratory charge, $5.00. Dr. GIBSON.

5b. **Experimental Pharmacology.** This course presents the physiological action of drugs. The experimental method is used throughout, the demonstrations being made on man and lower animals. (4). Laboratory charges, $5.00. Professor GREENE; Dr. GIBSON; Dr. SCHULTZ.

6b. **General and Comparative Physiology.** The phenomena of irritability; the effects of chemico-physical forces upon the physiological processes of protoplasm. Introductory courses in Physiology and Zoology are required. (2) or (3). Laboratory charge, $2.00 or $4.00. Dr. SCHULTZ.

Primarily for Graduates.

7a. **Toxicology.** (2) or (3). Laboratory charge, $2.00 or $4.00. Dr. GIBSON.

8. **Journal Club.** (1). Professor GREENE.

9a. **The Pharmacology of the Circulatory System.** (3). Laboratory charge, $4.00. Professor GREENE.

10. **Advanced Physiology.** Advanced courses in Physiology,

Pharmacology, and Physiological Chemistry. Individual problems will be assigned to students of sufficient preparation. Laboratory fee and credit to be arranged. Professor GREENE; Dr. GIBSON; Dr. SCHULTZ.

11. **Investigation.** Opportunity is offered for research into questions of current interest. Professor GREENE.

Political Science and Public Law.

Professor LOEB; Mr. COKER.

The courses for undergraduates may be elected by Sophomores or Juniors who have completed History 1 or its equivalent. Seniors electing these courses will receive only two-thirds credit. Course 1 or 2b or an equivalent is required of all students who wish to elect other courses in Political Science and Public Law. Of the courses for undergraduates and graduates, course 4 or 5 should be elected (generally in the junior year) by those who expect to pursue advanced work in this department. Courses 6a-20 are intended for Seniors and Graduate students. Courses 4, 5, 7b and 8a are electives in the Department of Law for the degree of Bachelor of Laws.

For Undergraduates.

1. **American Government.** An introductory course dealing with the organization and activities of the American Government, local, state, and national. This course or its equivalent is required of all students who wish to elect other courses in Political Science and Public Law. It must be preceded by History 1 or its equivalent. (3). Professor LOEB; Mr. COKER.

2b. **American Government.** This course will be a repetition of the first semester's work of course 1. Open to students at the beginning of the Second semester. (3). Professor LOEB.

For Undergraduates and Graduates.

3b. **Elements of Jurisprudence.** An introduction to the study of law. This course treats of the nature, sources, and classification of law, and includes a consideration of the fundamental concepts of private law. The nature and use of legal authorities will be discussed. (2). Professor LOEB.

4. **Comparative Constitutional Law.** A comparative study of the constitutional law of the principal states of Europe and America.

Particular attention will be given to the field of individual liberty defined in the Constitution of the United States and interpreted in the decisions of the Supreme Court. (3). Professor LOEB.

5. **Comparative Administration.** A study of the nature and functions of the administrative systems of the United States, England, France, and Germany. Governmental structure will be studied in detail and local government will be considered with special reference to recent development. (2). Mr. COKER.

Primarily for Graduates.

6a. **Municipal Government.** A sketch of the history of municipalities followed by a comparative study of the organization and functions of cities in Europe and in the United States. (2). Mr. COKER.

7b. **Colonial Government.** A study of the present government and administration of the colonies of the United States and of the chief states of Europe. (2). Mr. COKER.

8a. **The Government of Missouri.** A study of the constitutional development of the state from the Louisiana Purchase to the present time, followed by a consideration of the organization and functions of the institutions of the central and local governments. (2). Professor LOEB.

9b. **The Law of Taxation.** A study of the legal rules regulating taxation in the central and commonwealth governments of the United States. Should be preceded by Economics 4a. (2). Professor LOEB.

10a. **History of Political Theories.** An historical study of the theories of the State and political society and other subordinate and related concepts. The detailed study will begin with the works of the Grecian Philosophers and will then proceed through the writings of the Stoics and the Romans, the discussions of the Church men and Jurists of the Middle Ages, and the systematic treatises of the modern publicists and philosophers of Germany, England and France. (Not given in 1908-9.) (2). Mr. COKER.

20. **Seminary in Administration.** A course for the investigation of administrative organization and functions. In 1908-9 topics in Missouri administration will be studied from the sources. *May be elected for two, three or four hours' credit.* Professor LOEB.

Romance Languages.

Professor WEEKS; Assistant Professor DEY; Dr. EVERS; Dr. HAMILTON.

FRENCH.

For Undergraduates.

1. **Elementary Course.** Grammar, composition, and reading. Fraser and Squair's French Grammar. Lazare's Lectures Faciles. Several French texts. (3). Assistant Professor DEY; Dr. EVERS; Dr. HAMILTON.

2. **Modern Fiction and Plays.** Second year French. Advanced Grammar, Composition, Sight Reading, Collateral Reading, History of French Literature in the Nineteenth Century. Some of the texts read are Greville's Dosia; Dumas' La Tulipe Noire; Augier's Le Gendre de M. Poirier; Sand's La Petite Fadette; Lamartine's Jeanne D'Arc; Merimee's Colomba; Hugo's Les Miserables; several comedies by Musset; and some of Maupassant's Short Stories. (3). Dr. HAMILTON.

4. **Course in Rapid Reading.** This course is slightly more advanced than 2, and is conducted with special view to the training of teachers, without losing sight of the needs of those who are studying French for its literary value. Close attention is paid to pronunciation and to composition. There will be outside reading required. (3). Professor WEEKS.

6. **French Drama.** Reading, reports and lectures. In this course the development of the drama and the theater in France will be studied from their origins to the present time. The reading for the *first semester* will include eight or nine of the greater plays of Corneille, Moliere, and Racine. During the *second semester* will be read representative plays from the 18th and 19th centuries. A portion of the time may be devoted to some other branch of French Literature. (2). This course may also, for extra work, count for three hours' credit. Dr. HAMILTON.

For Undergraduates and Graduates.

8. **General View of French Literature.** A great deal of ground is covered in this course; much reading aloud is done, very little translation. The *first semester* is devoted to the 17th and 18th centuries, the *second* to the 19th. Several plays of each of the great classical dramatists are read, together with masterpieces in other branches of literature. (3). Professor WEEKS.

9. **French Literature in the Eighteenth and Nineteenth Centuries.** Lectures, reading, and reports. The *first semester* is occupied more especially with the study of Voltaire and Rousseau; the *second semester* treats of the Romantic and subsequent movements. (3). Assistant Professor DEY.

10. **The Seventeenth Century.** An attempt is made in this course to obtain a general view of the classic period of French Literature. Considerable attention is paid to the development of French prose. There is much outside reading, with written reports from time to time. Selections from nearly all the great writers of the seventeenth century will be read. (3). Dr. EVERS.

13. **French Composition and Conversation.** This course is open to all students who have completed course 2 or 4, or their equivalent. Either the composition or conversation may be elected singly, as a one-hour course. (2). Dr. EVERS.

Primarily for Graduates.

11. **The Sixteenth Century.** Lectures, readings, and reports. The course includes the period between the close of the literature of the Middle Ages and the first year of the seventeenth century, with especial attention to the intellectual forces set in motion by the Renaissance and the Reformation in France. The *first semester* will be given to a general survey of the period in question. The *second semester* will deal chiefly with Montaigne, Rabelais, and Ronsard, making a careful study of selected portions of their works, and of the influence and significance of their thought. (3). Dr. EVERS.

12. **Old French. Constans' Chrestomathie; Nyrop, Grammaire Historique.** This course is meant for Graduates who desire careful training in Philology. It is arranged so that one may follow the work to advantage for two successive years. Practical instruction is given in the establishment of an unedited text. For this purpose facsimiles of the Chevalerie Vivien will be used, and incidental instruction will be offered in Paleography. Professor WEEKS.

PROVENCAL.

14b. A study of the ancient language and literature of Provence. Reading, Phonology, and Morphology. The books used will be Grandgent, Old Provencal, Heath & Co., 1905; Crescini, Manualetto Provenzale, Padua, 1905; Restori, Histoire de la litterature Provencale. (2). Assistant Professor DEY.

ITALIAN.

For Undergraduates.

15. **Beginning Course.** Grammar, reading, composition. Open only to those who have taken course 1 or its equivalent. The object of the course is to obtain an easy reading knowledge of modern Italian, and to this end much ground is covered. Careful attention is paid to pronunciation, and as soon as possible students begin to read aloud without translation. The books used are: Grandgent's Grammar, Bowen's Reader, and specimens of modern prose in fiction and drama. (3). Assistant Professor DEY.

For Undergraduates and Graduates.

16. **Advanced Course.** The sixteenth century and Dante. Open to Seniors and Graduates who have had at least two years of French and who possess a fluent reading knowledge of modern Italian. The purpose of this course is to take as comprehensive a view as is practicable of the classical literature of Italy. The work studied will be mostly verse, but outside prose reading will be expected. During the first semester, Machiavelli's Il Principe, Tasso's Gerusalemme Liberata, and portions of Aristo's Orlando Furioso will be read. The second semester will be devoted mainly to the study of Dante and the Divina Commedia. (3). Assistant Professor DEY.

SPANISH.

For Undergraduates.

17. **Beginning Course.** Grammar, reading, and composition. Modern Spanish novels and plays, Hills and Ford's Spanish Grammar; Valera's Pajaro Verde; Alarcon's Capitan Veneno; and other texts. (3). Assistant Professor DEY.

For Undergraduates and Graduates.

18. **Spanish Literature of the Eighteenth and Nineteenth Centuries.** Lectures, composition, reading. Open to students who have taken course 17 or its equivalent. The object of this course is to acquaint the student with representative writers of the nineteenth century. A considerable amount of Spanish prose and verse will be read, and there will be composition based upon selected texts. Assistant Professor DEY.

19. **Spanish Literature of the Sixteenth and Seventeenth Centuries.** Cervantes, Lope de Vega, Calderon. Open to students who have taken course 18 or its equivalent. Considerable attention will be given to Don Quijote and other works of Cervantes, and selected plays of Lope de Vega and Calderon will be read. (3). Assistant Professor DEY.

Freshmen are not allowed to elect Beginning Spanish. Students are strongly urged not to enter upon the study of Spanish until they have studied French.

PHONETICS.

Primarily for Graduates.

20a. **General Introduction to Philology.** An effort is made in this course to study the phenomena of speech sounds from a physiological standpoint. The University has established a laboratory of Experimental Phonetics for the more accurate study of the living speech. (3). Professor WEEKS.

21. **Seminary.** An opportunity is here given for advanced work in special subjects. *Twice a week.*

Sanskrit and Comparative Philology.

Dr. SCOGGIN.

For Undergraduates and Graduates.

1. **Elementary Sanskrit.** *First semester.* Elements of the language. Translation of Sanskrit into English and English into Sanskrit. Thorough drill in forms. Whitney's Grammar, Lanman's Reader, and Perry's Primer. *Second semester:* Reading of early texts. Epic literature and the fables. Translation at sight. Lanman's Reader. (3).

2. **Comparative Grammar of Greek and Latin.** In this course the comparative method will be used throughout and constant reference will be made to other Indo-European languages. During the first semester chief attention will be given to Historical Greek Grammar. The main features of the language will be set forth systematically in lectures. Phonology, morphology, noun and verb inflection, reading and study of dialectic inscriptions. During the second semester chief attention will be given to Latin sounds and inflections. This course is important for those who intend to teach the Classics in high schools. (3).

3a. **General Introduction to the Science of Language.** This course is intended for students of all departments who have linguistic interests. (3).

Primarily for Graduates.

5. **Vedic Sanskrit.** *First semester*: Introduction to Vedic literature. Selections from the Hymns of the Rig-Veda. *Second semester*: Selections from the Hymns of the Atharva-Veda. (3).

6. **Classical Sanskrit.** *First semester*: Rapid reading of the Hitopadeca. Lectures on Sanskrit literature. *Second semester*: Sanskrit lyric poetry. Readings of Kalidasa's Meghaduta and selections from Bhartri-hari. (3).

7. **Pali.** *First semester*: General introduction. Selections in Anderson's Pali Reader. *Second semester*: Selections. Lectures on Pali literature. (3). (Not offered in 1908-1909.)

9a. **Old Persian.** In this course the old Persian Cuneiform inscriptions will be read and studied, with constant reference to Sanskrit. (3). (Not offered in 1908-1909.)

Sociology.

Professor ELLWOOD; Assistant Professor RILEY.

No course in Sociology is open to Freshmen. In general, course 1 in History, or its equivalent, will be required for entrance to all courses in Sociology. Students intending to specialize in Sociology are advised to take, during their Freshman or Sophomore years, courses in Psychology, Zoology, and Physiography (course 2 in Geology), as preparation for work in Sociology. It is equally important that such students should accompany their work in Sociology with courses in Economics, Political Science, and History. A good reading knowledge of French and German is practically necessary for graduate work in Sociology.

Juniors and Seniors who wish to take five hours a week in Sociology are recommended to combine course 1 with courses 15a and 16b, courses 10a and 11b with course 12, and courses 20a and 21b with course 30.

Affiliated with the University is the Saint Louis School of Philanthropy, a training school for charitable and social workers. The School of Philanthropy furnishes the opportunity for practical and professional training in charitable and social work. It is directly connected with the Department of Sociology. There is a limited number

of research fellowships available in this school. Information concerning the School of Philanthropy and the fellowships may be had on application to Professor RILEY, who is Director of the School.

The Department is developing a Social Museum to illustrate the various stages of culture from savagery to present day civilization, and also to exhibit improvements in social conditions by models of institutions, tenement houses, etc.

For Undergraduates.

1. **Elementary Sociology.** An introduction to the scientific study of social problems. The course consists of lectures and reading on certain fundamental problems; such as the nature of sociology, its problems, methods, and relations to other sciences, the bearing of evolutionary theory upon social problems, the origin and evolution of the family, the modern divorce problem, the growth of population, birth and death rates, the Malthusian theory of population, immigration, the Negro problem, the growth of cities, the social conditions of urban life, the liquor problem, the nature of society. Text-book work and assigned reading. (3). Professor ELLWOOD.

2. **The Social Teaching of Jesus.** Lectures and discussions on the bearing of Christianity on present social conditions and theories. Assigned reading. This course must be preceded or accompanied by course 1, if credit is desired. (1). Professor ELLWOOD.

For Undergraduates and Graduates.

10a. **Modern Charity.** A study of the origin, nature, and treatment of the dependent and defective classes. Among the topics treated are the causes of poverty, the causes of degeneracy, the principles of relief, public outdoor relief, organized charity, almshouse administration, the treatment of the vagrant, the care of dependent children, the care of the insane, the feeble-minded, the epileptic, the education of the blind and the deaf. Text-book work and reports by the class on special subjects for investigation. Additional work will be required of graduate students. (3). Assistant Professor RILEY.

11b. **Criminal Sociology.** A study of the causes, nature, and treatment of crime; the principles of criminal anthropology, criminal jurisprudence, and penology. Among the topics treated are criminal statistics, the social causes of crime, the relations of criminality to degeneracy, the anthropology and psychology of the criminal, Negro criminality, the evolution of the criminal law, the reform of modern criminal procedure, modern prison systems, the county jail, the in-

dustrial reformatory, the indeterminate sentence, systems of prison labor, probation and parole, the treatment of the juvenile offender. Lectures, selected text-books, and reports by the class on special subjects for investigation. Additional work will be required of graduate students. (3). Professor ELLWOOD.

12. **Preventive Philanthropy.** An intensive study of some specific problems in preventive work, such as sanitation and public health, the housing problem in cities, parks and playgrounds, the promotion of thrift, social settlements, the increased use of public school property, compulsory education, child labor legislation, the juvenile court, etc. The work will consist of lectures, library work, and theses. There will be special requirements of graduate students. (2). Assistant Professor RILEY.

15a. **Rural Communities.** A study of the social conditions in American agricultural communities with a view to their improvement. Among the topics considered will be the statistics of rural population, the means of communication and travel, social gatherings, organized movements among the farmers, the country school, and the country church. The work will consist of lectures, assigned reading, and papers. Additional work will be required of graduate students. (2). Assistant Professor RILEY.

16b. **Urban Communities.** A study of the social conditions in American cities, with special reference to their improvement. An intensive study of the institutions, agencies and forces that make for or militate against the educational, moral, social, aesthetic, and religious life of the city. The work will consist of lectures, assigned reading, and papers. Additional work will be required of graduate students. (2). Assistant Professor RILEY.

17a. **Social Condition of the Laboring Classes.** A review of the social effects of the Industrial Revolution and of the factory system upon the working classes. Organized labor and present day problems are considered from the sociological standpoint. The work will consist of lectures, library work, and theses. There will be special requirements of graduate students. (2). Assistant Professor RILEY.

18b. **Social Aspects of Education.** A study of the bases and aims of education from the standpoint of sociology, and the demands of sociology upon subject matter and methods in education. The work will consist of lectures, library work, and theses. There will be special requirements of graduate students. (2). Assistant Professor RILEY.

Primarily for Graduates.

20a. **Advanced Sociology.** A critical study of sociological theory. Lectures, discussions, and theses by the class. (3). Professor ELLWOOD.

21b. **Psychological Sociology.** A critical study of the writings of Tarde, Le Bon, and Baldwin, with application of psychological principles in the interpretation of social phenomena. (3). Professor ELLWOOD.

25. **Anthropology and Ethnology.** A study of the evolution of man as an animal, and of the evolution and relations of the different races of mankind. (2). Professor ELLWOOD.

26. **Ethnic Psychology.** A study of the comparative psychology of races as shown in their customs, institutions, and social organization. (Not given 1908-09.) Professor ELLWOOD.

27a. **The Negro in America.** A study of the social, economic, moral, and educational conditions among the Negroes of the United States. (3). Hours to be arranged. Assistant Professor RILEY.

30. **History of Social Philosophy.** Lectures on the development of social thought from Aristotle to the present, especially since the time of Comte. Assigned reading. (2). Professor ELLWOOD.

31a. **History of Philanthropy and the Poor Law.** A study of the development of legislation governing, and the methods of administering, public relief in England and America, and the parallel account of voluntary charitable institutions and methods. (2). Assistant Professor RILEY.

32b. **Socialism.** An historical and critical study of socialism since the French Revolution from the standpoint of Sociology. (3). Assistant Professor RILEY.

35b. **Social Statistics.** An introductory course in statistical method with practical work on a small number of selected problems. (3). Assistant Professor RILEY.

40. **Seminary.** Research work along sociological and philanthropic lines. (2) or (3) or (4). Professor ELLWOOD; Assistant Professor RILEY.

Zoology.

Professor LEFEVRE; Professor CURTIS; Dr. MCCLENDON; Mr. TANNREUTHER; Mr. HOGAN.

For Undergraduates.

1. **General Zoology.** A course intended to give a general survey of the field of zoological science. The main object in view is to

train the student in the exercise of his powers of observation, and at the same time to lay the foundation of the general principles of Zoology, either as part of a liberal education, or as preparation for professional study in Medicine and in Agriculture.

In order better to adapt the course to the needs of different classes of students, the work is presented in three separate divisions: students in Agriculture are assigned to section I; students preparing for entrance into the Department of Medicine to section II; and students of the College of Arts and Science, taking the course as a biological science required for graduation, should enter section III, if possible. (3). Professor LEFEVRE; Professor CURTIS; Dr. MCCLENDON; Mr. TANNREUTHER; Mr. HOGAN.

2b. **Theory of Evolution.** A course of lectures on the theory of organic evolution and related problems. The purpose of the course is to introduce the student to this important subject and to point out the general applications of evolutionary doctrine in biological science and the profound influence which the theory has exerted upon human thought in other fields. These lectures form a part of the regular work in course 1, section III, but students without previous training in Zoology may be admitted to them. (1). Professor CURTIS.

3. **Comparative Anatomy of Vertebrates.** A comparative study of the structure of a series of vertebrates. (3). Professor LEFEVRE.

4. **Zoology of Invertebrates.** A comparative study of invertebrates, including the structure, habits, behavior, and general ecology in each of the main groups. Field work on the local fauna is conducted during the fall and spring months. This course may be taken advantageously by students who expect to teach Zoology. (3). Professor CURTIS.

5b. **Embryology of Vertebrates.** The course is designed to lay the foundation of vertebrate embryology. Successive stages in the development of the chick and pig are studied from preparations of entire embryos and from serial sections. These observations are used as a basis of comparison for the study of human embryology. (3). Professor LEFEVRE; Mr. TANNREUTHER.

For Undergraduates and Graduates.

6a or 6b. **Comparative Embryology of Invertebrates.** A comparative study of the structure and development of representative forms from the principal phyla of the invertebrates, including a consideration of general phylogenetic and morphological problems. (3). Professor CURTIS.

7. **Cytology.** A study of the cell, with special reference to problems of development and inheritance. Cytological technique. (3). (Alternate years. This course may not be given in 1908-09.) Dr. McCLENDON.

8. **Experimental Zoology.** A course in Zoology, with special reference to the physiological aspect, and including: influence of environment on structure and on life-cycles, response to stimuli, and experiments on growth, regeneration, and development. *May be elected for 2 or 3 hours.* (Alternate years. This course will be given in 1908-09.) Dr. McCLENDON.

9a. **Experimental Evolution and Heredity.** A course of lectures dealing with the experimental study of evolution and heredity. Emphasis is laid on the phenomena of hybridization, including Mendelian inheritance, on the origin of species by mutation, and the influence of the environment upon the race. (2). Professor LEFEVRE.

10b. **History of Zoology.** A course of lectures on the historical foundation of zoological science, and the origin and development of modern problems. (2). Professor LEFEVRE.

Primarily for Graduates.

11. **Research.** Special investigation of unsolved problems of Zoology, in which the student is trained in the exercise of original observation and thought. A reading knowledge of French and German is essential. Hours will be arranged in accordance with the requirements of individual students.

12. **Seminary.** Meetings at which special subjects of zoological investigation are reported and discussed by instructors and students. Each student is required to give at least six lectures during the year, and experience is thus gained in presenting in the form of lectures the results of reading and research. For the session of 1908-09 the following subjects will receive special attention in the work of Seminary: Experimental evolution and heredity, and the behavior of organisms. A reading knowledge of French and German is essential. (1).

TEACHERS COLLEGE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,
President-elect of the University, and Professor of Educational Psychology.

JUNIUS LATHROP MERIAM, A. B., A. M., Ph. D.,
Professor of Theory and Practice of Teaching, and Acting Dean of the Faculty.

JOHN CHARLES WHITTEN, B. S., Ph. D.,
Professor of the Teaching of Horticulture.

FREDERICK BLACKMAR MUMFORD, B. S., M. S.,
Professor of the Teaching of Agriculture.

JOHN RUTLEDGE SCOTT, A. B., A. M.,
Professor of Elocution.

CHARLES WILSON GREENE, A. B., A. M., Ph. D.,
Professor of the Teaching of Physiology and Hygiene.

CURTIS FLETCHER MARBUT, B. S., A. M.,
Professor of the Teaching of Physical Geography.

MAX MEYER, Ph. D.,
Professor of Experimental Psychology.

CLARK WILSON HETHERINGTON, A. B.,
Professor of Physical Education.

‡BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,
Professor of the Teaching of Botany.

HERMANN BENJAMIN ALMSTEDT, B. L., Ph. D.,
Professor of the Teaching of German.

OSCAR MILTON STEWART, Ph. B., Ph. D.,
Professor of the Teaching of Physics.

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‡ Resigned.

NORMAN MACLAREN TRENHOLME, A. B., A. M., Ph. D.,
Professor of the Teaching of History.

HENRY MARVIN BELDEN, A. B., Ph. D.,
Professor of the Teaching of English.

WARRETT WALLACE CHARTERS,
Acting Professor of Theory and Practice of Teaching.

GUY MONTROSE WHIPPLE,
Acting Professor of Educational Psychology.

WINTERTON CONWAY CURTIS, A. B., A. M., Ph. D.,
Professor of the Teaching of Zoology.

WILLIAM HENRY POMMER,
Professor of Music.

JOHN SITES ANKENEY, JR., A. B.,
Assistant Professor of Freehand Drawing.

JESSE H. COURSAULT, A. B., A. M., Ph. D.,
Assistant Professor of the History and Philosophy of Education.

LEWIS DARWIN AMES, A. B., A. M., Ph. D.,
Assistant Professor of the Teaching of Mathematics.

ARTHUR HENRY ROLPH FAIRCHILD, A. B., A. M., Ph. D.,
Assistant Professor of the Teaching of English.

JOSEPH DOLIVAR ELLIFF, A. B., A. M.,
Assistant Professor of School Administration.

HOWARD VERNON CANTER, A. B., Ph. D.,
Instructor in the Teaching of Latin.

MALCOLM CLYDE WATSON, A. B., B. S.,
Instructor in Manual Training.

CARTER ALEXANDER, A. B., B. S. (in Ed.),
Assistant in School Administration.

ERNEST HORN, B. S. (in Ed.),
Assistant in Theory and Practice of Teaching.

EDITH PARKER,
Assistant in Manual Training.

General Statement:

The Teachers College is a professional school for teachers, taking rank with the Departments of Engineering, Law, and Medicine. It affords to advanced students preparation for college and normal

school instructorships in Education; for work as superintendents and principals of schools; as heads of academic departments in normal schools and high schools; as well as professional training, both theoretical and practical, for teachers in high schools, and in elementary schools; and for special teachers of such technical subjects as Drawing, Manual Training, Music, and Physical Education.

The distinctive feature of the work offered by the Teachers College consists in the courses on Educational Psychology, History of Education, Theory and Practice of Teaching, etc., listed under the head of Education below. A number of courses is also provided in Agriculture, Drawing, Manual Training, and other technical subjects; and while no attempt is made to duplicate the work offered by the College of Arts and Science, there are provided for students of the Teachers College, where practicable, sections of Arts and Science courses, taught by members of the Teachers College faculty. In addition, all work offered by the College of Arts and Science is open to students of the Teachers College, and many courses in Agricultural subjects may be elected in partial fulfillment of the requirements for the degree of Bachelor of Science in Education.

Teachers College Schools:

In order to supplement its class instruction in educational aims and methods, and to cultivate skill in meeting the actual problems of teaching and administration, this College has developed as an integral part of its work a system of schools for observation and practice. The Professor of Theory and Practice of Teaching is the superintendent of these schools, and he is assisted in the work of supervision by the representatives of departments of instruction who hold positions in the Faculty of the Teachers College.

The practical work, required in connection with all courses in theory and practice of teaching, consists of observation, assistance, and class instruction. All students who receive certificates from the Teachers College are required to demonstrate their ability to teach satisfactorily, under normal conditions, so that a certificate is practically a guarantee of efficiency. Advancement from observation to assistance and from assistance to class teaching depends upon the candidate's ability to do the work required.

Requirements for Admission:

The requirements for admission to this Department of the *University* are stated on pages 71-81.

Degrees and Certificates:

The Teachers College confers only one undergraduate degree, that of Bachelor of Science (B. S.) in Education. It also confers upon properly qualified persons the graduate degrees of Master ot Arts (A. M.) and Doctor of Philosophy (Ph. D.).

The Teachers College is authorized by the Legislature of Missouri to confer certificates, valid for life, or for two years, according to the preparation of the candidate, upon persons who, in the judgment of the Faculty, are considered qualified to teach in the public schools of the State. For requirements, see below.

Requirements for Graduation with B. S. Degree:

In order to secure the degree of Bachelor of Science (B. S.) in Education, the student must fulfill the following conditions:

1. He must be regularly admitted to the Department.

2. He must complete during the first two years of his course—(a) Ten hours of English (Courses 1 and 1A), (b) Six hours of History, (c) Twelve hours of Foreign Languages, (d) Six hours of Mathematics or Logic and Psychology, (e) Six hours of Physical Sciences (Astronomy, Chemistry, Geology and Mineralogy, Physics), (f) Six hours of Biological Sciences (Botany, Zoology, Physiology).

These requirements may be waived on the following conditions:

If the student presents four units for entrance in (b), six in (c), three in (d), two in (e), or two in (f), he will be excused from that requirement. Such exemptions do not excuse him from the requirement of total hours stated below.

3. He must complete work in Education to the amount of twenty-four (24) hours. The greater portion of this work should be taken during the Junior and Senior years.

4. He must complete a course in Experimental Psychology with at least three (3) hours' credit. This course should be completed before the Junior year.

5. The total requirement for graduation is one hundred and twenty (120) hours.

Elective Work:

All elections must be made in accordance with the advice and approval of the Dean. In general, any study in the University which will tend to make the candidate for the degree a more efficient teacher will be regarded as legitimate work for him to elect, but he will not be permitted to elect studies at random. No student will be permitted, except for good reasons and with the consent of the Dean, to elect a course under any other Faculty of the University when a

substantially equivalent course is offered in the Teachers College. No student may take more than 16 nor less than 12 hours a week, except by special permission of the Dean.

Certificates:

Certificates to teach for life or for two years in the State of Missouri are conferred upon those who have been regularly admitted to the Teachers College and have fulfilled the special requirements for the kind of certificate sought. In the case of the certificate to teach in secondary schools, the subjects which the holder is specially qualified to teach are named in the certificate.

Special Requirements for Life Certificate to Teach in Secondary Schools:

1. A candidate for this certificate must be able to meet the requirements for the Bachelor's degree from an institution of good standing.

2. He must complete work in Education and Psychology equivalent to that required for the degree of Bachelor of Science from this College. The required courses in Education are: 4a, 4b, or 10a; 5a or 5b; 6; 14a; 19a or 19b; and at least one of the courses in the group 20b-32b. In case the student takes more than one of the last named courses, he may with the consent of the Dean be excused from 14a.

3. He must complete at least eighteen (18) hours in each subject named in his certificate, but the Dean and the instructor in charge of the subject may, at their discretion, require either more or less than this amount under special circumstances.

The above certificate may be taken not only in any of the standard subjects of high school instruction, but also in such subjects as Agriculture, Drawing, Home Economics, Manual Training, and Physical Education.

Special Requirements for Life Certificate to Teach in Elementary Schools:

The following special course has been arranged for students who may wish to prepare themselves for teaching in elementary schools and who cannot afford the time to complete the four years' course for the degree from the Teachers College. This course will be somewhat modified in the year 1908-9. Before receiving this certificate the student must have met the entrance requirements and been regularly admitted to this Department.

FIRST YEAR.

First Semester.		*Second Semester.*	
History 3 (American History)	3	History 3 (American History)	3
English 1A (Introduction to English Literature).....	2	English 1A (Introduction to English Literature).	2
Nature Study	3	Nature Study.	3
Freehand Drawing 2 (Representation)	3	Freehand Drawing 2 (Representation).	3
Manual Training 5 (Elementary School Manual Training)	3	Manual Training 5 (Elementary School Manual Training)	3
Physical Education	1	Physical Education	1
Education 3a (School Management)	3	Education 1b (Introduction to Education)	3
	18		18

SECOND YEAR.

First Semester.		*Second Semester.*	
English 1a (English Composition and Rhetoric).....	3	English 3b (Modern English Literature)	3
Experimental Psychology 1a.	3	Education 4b (Educational Psychology)	3
Music 2 (Public School Music)	2	Music 2 (Public School Music)	2
Education 3 (Elementary Education)	3	Education 3 (Elementary Education)	3
Physical Geography 6a.....	3	Education 29b (The Teaching of Geography).....	2
Physiology 1a	3	Education 18b (Assistant Teaching)	3
	17		16

Requirements for Two Years' Certificates:

Upon the completion of not less than three-fourths of the total work required for any of the certificates above mentioned, including at least one-half of the requirements in Education and Psychology, that certificate may be granted to a teacher for a period of two years.

Such certificate will not be renewed, but if in the course of two years the remaining requirements are made up, the Life Certificate may then be conferred.

Special Students:

All students who are candidates for a teachers' certificate or for the degree are counted regular students of the Teachers College. In addition to these, persons of proper qualifications are admitted who wish, without reference to the degree or a certificate, to make a serious study of some special phase of Education or to gain a knowledge of fields they have hitherto neglected, e. g., Freehand Drawing, Manual Training, Music, Physical Education.

Such students are subject to the general rules of the University regarding Special Students. See page 86.

They will not be given a certificate, but a statement will be furnished them setting forth the nature and amount of work done while in attendance at the Teachers College.

Graduate Work:

For teachers of experience who already hold the Bachelor's degree from an institution of good standing, opportunities are provided to carry on graduate work in Education leading to the degrees of Master of Arts (A. M.) and Doctor of Philosophy (Ph. D.). See courses in detail, below, and also page 120.

University Fellowships and Scholarships are open to properly qualified graduate students in this Department. For details see pages 92-97.

Recommendation of Teachers:

The Dean is in regular correspondence with superintendents and directors of schools and, when vacancies occur, is in a position to recommend persons qualified to fill the positions.

Courses for Teachers in the Summer Session:

All of the courses offered in the Summer Session of the University are arranged with a view to the needs of teachers, and special courses in Education, Manual Training, Nature Study, etc., are given a prominent place. The Summer Session is primarily a session of the Teachers College.

In the Summer of 1908 courses will be offered in the following subjects: Agriculture, Botany, Chemistry, Economics, Education, Elocution, English, Freehand Drawing, French, German, History, Horticulture, Latin, Library Science, Manual Training, Mathematics, Music, Philosophy, Physical Education, Physical Geography, Physics, Psy-

chology, Spanish, and Zoology. The session will open June 4 and continue till August 7.

Full information regarding details may be had upon application to The Director of the Summer Session, Columbia, Missouri.

COURSES IN DETAIL.

(Courses designated by a number with the letter a attached, thus: 4a, 6a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, 6b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Capital letters attached to the number of a course have no reference to semester or session. Arabic numerals in parenthesis indicate the number of hours credit a semester. For schedule of days and hours application should be made to the Registrar after August 1.)

(A) EDUCATION AND PSYCHOLOGY.

1. Education.

Professor MERIAM; Acting Professor CHARTERS; Acting Professor WHIPPLE; Assistant Professor COURSAULT; Assistant Professor ELLIFF; Mr. ALEXANDER; Mr. HORN.

For Undergraduates.

1a or 1b. **Introduction to the Study of Education.** This course aims quite as much to train the student to proper habits and methods of study as to introduce him to the problems of Education. After some discussion of the meaning and aims of Education, of the art of study, and the methods of teaching, a general presentation of educational ideals and institutions in their historic setting is made. This course is intended primarily for Freshmen and Sophomores in the Teachers College, but Sophomores in Arts will also be permitted to take it, and count it toward the A. B. degree. This course is not open to Juniors and Seniors. This course is allowed credit in the College of Arts and Science. (3). Acting Professor WHIPPLE.

2a. **School Management and School Hygiene.** Lectures, discussions, and reading. About one-third of the time in this course is devoted to problems of management, such as the prevention of waste, value of habit, mechanism, and routine, the daily program, preservation of order and discipline, penalties, how to direct or develop attention and interest, and the technique of class instruction.

The balance of the course deals with the more important phases of school hygiene, such as illumination, heating, ventilation, sanitation, followed by the hygiene of instruction, fatigue and over-work, school diseases and medical inspection, defects of sight and hearing, hygiene of reading, writing and other studies. (3). Acting Professor WHIPPLE.

3. **Elementary Education.** In this course a study is made of the function of the elementary school in modern life, and the nature of the curriculum needed to meet this aim. Courses of study in typical public schools are studied. Considerable attention is given to the work of the Teachers College Elementary School. (3). Professor MERIAM.

4a, 4b. **Educational Psychology.** This course is designed to present the main facts concerning the nature and development of the mind during childhood and youth, with special reference to the meaning of these facts to the teacher. It aims to prepare students for classroom work and for the Theory and Practice of Teaching and the other courses in Education. It presupposes Experimental Psychology 1a, or its equivalent. This course can be taken for credit in the College of Arts and Science. (3). Acting Professor WHIPPLE.

5a, 5b. **Theory of Teaching.** A general course which aims to formulate a method of class work, and to illustrate as fully as time will permit its application to subjects in all grades of school work. (3). Acting Professor CHARTERS.

6. **History of Education.** The purpose of this course is to give a better understanding and appreciation of present educational tendencies by tracing historically those educational movements which have been most effective in determining the present educational situation or are typical of prominent aspects of it. The course may be taken for credit in the College of Arts and Science. (2). Assistant Professor COURSAULT.

For Undergraduates and Graduates.

10a. **Educational Psychology** (Advanced Course). This course may be taken after course 4a or 4b or independently of it. More scientific methods of study will be followed than in 4a and 4b, and no student will be permitted to take it before the Junior year. It presupposes course 1 in Experimental Psychology, or its equivalent. This course may be taken for credit in the College of Arts and Science. (3). Acting Professor WHIPPLE.

11b. **Principles of Education.** The purpose of this course is

to give insight into the meaning of education through a study of Biological, Psychological, Ethical, Logical and Philosophical aspects of the subject, and thereby reveal the fundamental normative principles upon which educational procedure should rest. It presupposes at least a general course in Psychology. This course is intended for Seniors and Graduates, and may be taken for credit in the College of Arts and Science. (3). Assistant Professor COURSAULT.

12a. **Educational Classics.** The aim of this course is to give insight into the development of educational theory by a critical study of several classics which have marked prominent stages in the development of educational thought. It presupposes the general course in the History of Education, 6, or the equivalent. This course may be taken for credit in the College of Arts and Science. (3). Assistant Professor COURSAULT.

13b. **History of Education in the United States.** The purpose of this course is to trace historically the most prominent educational movements in the United States, with a view to giving a deeper insight into the present educational situation. A study will be made of the development of the curriculum, methods of teaching, organization and administration of schools in the United States. This course may be taken for credit in the College of Arts and Science. (3). Assistant Professor COURSAULT.

14a. **Secondary Education.** A study of the historical development of secondary education, especially in the United States, and a consideration of the leading problems now confronting secondary education in America. (3). Acting Professor CHARTERS.

15b. **School Systems.** A comparative sudy of the school systems of Germany, England, France, Canada, and the United States. (3). Professor ———.

16b. **School Supervision.** The course deals with the problems of school teaching and includes a discussion of the following topics: The individual vs. a fixed course of study; the individual vs. a rigid classification; how to study; departmental teaching; discipline; aims vs. methods; limits vs. details; relations of the supervisor to his corps; standards of judging the work of pupils and teachers. (3). Acting Professor CHARTERS; Assistant Professor ELLIFF.

17. **Class Criticism.** This course consists of a discussion of concrete problems, arising in class room work, based on the principles formulated in 5a. These problems are studied in the class room while the student is either teaching or observing. This course is required of all students teaching in the High School and is open to other

advanced students, especially those who anticipate supervisory work. (1). Acting Professor CHARTERS.

18a, 18b. **Assistant Teaching in Elementary Schools.** Hours and credit must be arranged with the instructor before registration. Professor MERIAM; Mr. HORN.

19a, 19b. **Practice Teaching for High School Teachers.** Hours and credit must be arranged with the instructor before registration. Professor MERIAM; Acting Professor CHARTERS; Mr. ALEXANDER.

(Note: Courses on the teaching of the various subjects are required of students taking certificates in such subjects. Students are expected to take these courses in their Junior year.)

20b. **The Teaching of Botany.** A course of lectures, with demonstrations and laboratory work, when necessary, upon certain fundamental topics and upon available botanical materials and methods. The whole field of botanical work which may be taught in high schools or colleges will be systematically discussed and reported upon. (2). Assistant Professor REED.

21b. **The Teaching of Zoology.** A course of lectures and demonstrations dealing with the subject matter and the forms to be used in the teaching of Zoology in Secondary Schools. Text, Lloyd & Bigelow, *Teaching of Zoology.* (2). Professor CURTIS.

22b. **The Teaching of English.** Lectures and discussions on the teaching of English in secondary schools. (2). Assistant Professor FAIRCHILD.

23b. **The Teaching of Art.** Critical study of theories and methods in the teaching of art. Open only to advanced students (2). Assistant Professor ANKENEY.

24b. **The Teaching of German.** A course of lectures and discussions on the teaching of German in Secondary Schools; consideration of text-books, grammars, readers, etc.; consideration of difficulties, such as occur in pronunciation, syntax, idiom. (2). Professor ALMSTEDT.

25b. **The Teaching of History.** A course having for its aim the discussion of practical questions in connection with the teaching of History in secondary schools. Special attention will be given to the scope and character of the high school course of study, the organization and treatment of the different fields, the use of maps, reference books, and sources, and methods of effective class room teaching and interpretation. Brief reports may be called for from members of the class and also occasional written exercises. (2). Professor TRENHOLME.

26b. **The Teaching of Latin.** Lectures and discussions on the aims and methods of instruction in Latin in secondary schools. (2). Dr. CANTER.

27b. **The Teaching of Manual Training.** A course of lectures and discussions on the aims and methods of teaching the various branches of manual training in the high and elementary schools. (2). Miss PARKER.

28a. **The Teaching of Mathematics.** Lectures and discussions on the teaching of Mathematics with special reference to high school instruction. (2). Assistant Professor AMES.

29b. **The Teaching of Geography.** A course of lectures and occasional field and library work on the teaching of geography. It will consider the content of public school geography, the methods of teaching, the aim of the subject, and the sources of material for properly illustrating it. The geography of the whole public school course will be considered, though most emphasis will be laid on the work in the 6th, 7th, and 8th grades, and in the high school. (2). Professor MARBUT.

30b. **The Teaching of Physics.** Discussions on the teaching of Physics in high schools, instruction regarding the construction of apparatus, etc. (2). Professor STEWART.

31b. **The Teaching of Physiology.** Lectures and demonstrations on the selection and utilization of materials and on the methods of teaching Physiology in the grades and in high schools. (2). Professor GREENE.

32a or 32b. **The Teaching of Physical Education.** For credit in this course, course 8 in the outline of work in Physical Education may be taken. (2 or 4).

Primarily for Graduates.

40. **Phlosophy of Education.** The purpose of this course is to give insight into the significance of education as a conscious effort towards human evolution by a study of its relation to the life process, and thus, by giving clearer insight into the aims and methods of education, help to make educational practice a rationalized endeavor rather than a mere routine. This course is open only to students who have had training in Philosophy. (3). Assistant Professor COURSAULT.

41. **Seminary in Educational Psychology.** The special problems selected for study will depend upon the interests of those taking the course, the aim being to guide advanced students of Education in constructive work in the theory of Education through a detailed

study of a few aspects of mental development. The course is open only to students who have had considerable training in both Education and Psychology. (Credits to be arranged.) Acting Professor WHIPPLE.

42. **Seminary in the History of Philosophy of Education.** A critical investigation of topics in connection with the thesis work for the Graduate Degrees. (Credit to be arranged.) Assistant Professor COURSAULT.

43. **Seminary in School Administration.** A research course in school organization and administration, with special reference to city school systems. The course is open only to teachers of considerable experience in school supervision, or who are otherwise qualified to undertake research work. (Credit to be arranged.) Professor MERIAM; Acting Professor CHARTERS; Assistant Professor ELLIFF.

II. Experimental Psychology.

Professor MEYER.

1a or 1b. **Introduction to Psychology.** Text: Thorndike's Elements of Psychology. This course alone does not prepare for advanced courses in the Department of Experimental Psychology. Students who want Psychology merely as a preparation for work in the Department of Education, may take this course. It consists mainly in the study of the text-book; no laboratory demonstrations. (3).

1. **General Psychology.** This course is broader than course 1a. It gives a general survey of the whole field of Psychology for those who take a more special interest in Psychology, either as a part of a liberal education, or as a preparation for professional study in Education, Law, or Medicine. The course covers the following ground: Structure and functions of the sense organs and the nervous system; sensations, their classification and analysis; perception of space and time; movement and action; attention; memory and the association of ideas; illusions; affection and feeling; emotion and sentiment; will; sleep and dreams; hypnotism; insanity. Texts: Judd's Psychology; Titchener's Experimental Psychology, Student's Manual. (3).

2b. **Experimental Didactics.** Application of the methods of the Psychological laboratory to problems of interest to the educator. (3).

For advanced courses in Psychology, see the announcement of the College of Arts and Science under Philosophy, and Experimental Psychology.

(B.) TECHNOLOGICAL COURSES.

In addition to the professional work in Education and Psychology, the following courses are offered as preparation for the teaching of certain technical subjects:

I. Agriculture and Horticulture.

(a) *Agriculture.*

Professor MUMFORD.

1a. **Soils and Plant Studies, with Reference to Agriculture.** This course will aim to give a clear general knowledge of the principles of Agriculture. The character of the work is adapted to those who are preparing to teach in the elementary schools. (3).

2. **The Principles of Agriculture.** Fundamental conceptions of soils, plants and animals, and their applications to Agricultural practice. Lectures, reading, laboratory work, and field excursions. A course for high school and academy teachers. (3).

For other courses in Agriculture that may be elected by students in the Teachers College, see College of Agriculture.

(b) *Horticulture.*

Professor WHITTEN.

1b. **Cultivated Plants.** How they grow under culture, their relation to their environments, and common methods of propagating and managing plants; the materials for a school garden and how to use them. Lectures and laboratory. This course is intended for those who are preparing to teach in elementary schools and who may not have time for the longer courses offered by the department. (3).

1a and 2b. These two courses taken together constitute a year's work in which the topics mentioned in 1b are given fuller and more scientific treatment. They can be taken after 1b or independently of it, and are designed to meet the needs of those who are preparing to teach in any branch of biological science. (3).

4a. **The Evolution of Cultivated Plants.** Lectures and assigned readings. A study of organic evolution as applied to the modifications of plants, particularly those in cultivation. (3).

For other courses in Horticulture open to students in the Teachers College, see College of Agriculture.

II. Elocution.

Professor SCOTT.

1. *First semester*: Foundation theory and practice of vocal culture and expression. *Second semester*: Principles of bearing, walk, and gesture; the practice of short oratorical extracts, with the study of the *rationale* of appropriate utterance and action. (3).

2. **Advanced Work.** The interpretative study of plays, scenes, poems, and imaginative literature generally. This course must be preceded by course 1. (3).

III. Freehand Drawing.

Assistant Professor ANKENEY.

2. **Representation.** An introductory course giving a general survey of delienation. The principles and theories are presented in lectures with some collateral reading. Practice in drawing with pencil, pen and ink, wash, and in painting with water colors. Three times a week—two lectures with home work and one laboratory period. (3).

During the second semester the experimental practice in course 2 is differentiated somewhat to suit the needs of individual students. Those taking this course as a direct aid to other University courses should so inform the instructor.

3. **Design.** The theory of design; design as fundamental to the fine arts (architecture, painting, sculpture), and crafts; the principles and bases; evolution in design. Lectures, reading, study of examples, original exercises. (3).

5. **Construction.** Consideration of past and present usage in the artistic construction of the human figure. Lectures, study of examples and reading. Drawing and modeling from casts and life. A three-hour course with one lecture, two drawing laboratory periods of two hours each, one composition and one sketch laboratory. The department maintains a sketch club on Tuesday evenings, 7 to 9, and students in courses 5 and 7 may offer this as an equivalent to the sketch laboratory period. Subjects for composition are assigned twice each month. (3).

7. **Painting.** Style, theory, and methods of various schools and movements. Lectures, study of examples, and reading. Experimental practice in painting from still life and life with work in original composition. (3).

9. **Tone.** A more advanced painting course than 7. A close analysis of the composition and relation of tones (value, color quality, intensity), with the equivalents in pigments in interpreting both indoor and outdoor subjects. Students may not elect this course the same year as 7. Two periods a week will be given to work directly under the instructor, in addition to which the student will be expectetd to paint a great deal alone bringing in the work for criticism. Open only to advanced students. (3).

For a course on the Teaching of Art, see Education 23b.

IV. Manual Training.

Mr. WATSON; Miss PARKER.

1. **Elementary Manual Training.** This course is concerned with materials and processes suitable for use in the grades. Clay, raffia, rattan, yarns, tilo matting, and cord are some of the materials; clay modeling, basketry, weaving, and knotting suggest the processes. Emphasis is placed on directed reading, compilation of notes, study of the origin and development of various processes, and the practical application of the work to teaching of elementary school subjects. Design forms an important part of the work and is carefully criticised. (3). Miss PARKER.

2. **Benchwork.** This is primarily a course for those students who are preparing to teach manual training in the high schools and upper grades. This course is intended to familiarize the student with the care and use of wood-working tools. The work consists in planning a piece of work and carrying it through the different steps from mechanical drawing to the finished product. Attention is given to readings, compilation of notes and a study of the development of various industries. (3). Mr. WATSON.

3a. **Wood Turning.** This course follows course 2 and consists in exercises which give the student a thorough knowledge of wood-turning and wood-turning machinery. (3). Mr. WATSON.

3b. **Forging.** The work given in this course is for the purpose of working in iron and steel; viz., drawing, bending, upsetting, punching, fullering, swaging, welding, etc., and the forging, hardening and tempering of steel tools. (3). Mr. WATSON.

4. **Art Craft.** This course is a continuation of course 1. Previous work in free-hand drawing and design are required for entrance in this class. Advanced work in artistic handicraft is at-

tempted. Suggestive processes are: block printing, stencilling, design weaving, leather tooling, work in leaded glass, in sheet copper, brass, iron, silver, advanced work in pottery, such as casting, glazing, decorating, etc. (3). Miss PARKER.

For a course on the Teaching of Manual Training, see Education 27b.

V. Music.

Professor POMMER.

1. **Elementary Public School Music.** This course includes notation, ear-training, dictation, sight-reading, tone production, care and development of the child's voice, song interpretation, practical teaching, and is primarily designed for grade teachers. (2).

2. **Advanced Public School Music.** This course is open only to those who wish to become Supervisors of Music in the Public Schools and who show special aptitude. In addition to more advanced work along lines mapped out in Course 1, attention will be given to the elements of Harmony, the art of conducting and the management of larger bodies of singers. (2).

3. **Harmony.** Melodic and harmonic relationships of tones are established by an exhaustive study of intervals. This is followed by the acquisition of a working knowledge of the triads and chords of the seventh and their inversions, preparation and resolution of dissonances in general, modulation, suspension, passing and changing notes, organ-point.

In this course special attention is given to those fundamental principles upon which the science of Harmony rests. Without a complete mastery of these principles the student will be seriously hampered in advanced work, such as is offered in 4a. (3).

4a. **Harmony.** (Transitional to Course 4b.) The harmonization of melodies and chorals, with reference to the freedom of movement of the individual parts. (3).

4b. **Counterpoint.** The addition of parts to a *cantus firmus*. Simple and Double Counterpoint. Imitation and Canon. Application to Free Composition and to Fugue. (3).

5. **University Chorus.** Students wishing to join the University Chorus are requested to do so at the beginning of the first semester. Sacred and secular works by the great masters will be carefully studied with the purpose of giving a final rendition at the close of the year. For conditions of membership in the University Chorus apply to the Conductor. One hour credit allowed for the year.

VI. Physical Education.

Professor HETHERINGTON, and Members of His Staff.

The courses listed below (except course 1, the general course open to all students) are professional courses in process of organization. Some of these courses call for courses in other departments of the University as prerequisites, to be announced later.

1. **Developmental and Special Exercises.** Candidates for the certificate in Physical Education are required to continue this course with one hour credit each semester for four years. For contents of this course, see the statement under Arts and Science. (1).

3. **Physical Education as an Institution.** (2).

4. **Introductory Technique of Physical Education.** This course is required of all candidates for the certificate in Physical Education and should be taken early in the course. (2).

5. **Kinesiology.** (1).

6. **Analysis and Classification of Exercises.** (2).

7. **Principles of Physical Education.** This course takes up the values of physical training, the "hygiene" of exercise, the "systems" of exercise and the adaptation of exercises to different ages and individual capacities. (2).

8. **Play and Athletics in Physical Education.** (1).

10. **Physical Education in Public Schools.**

In Elementary Schools (first semester) (2).

In High Schools (second semester) (2).

This course is required of all candidates for the certificate in Physical Education.

11. **Technique of**

1. Calisthenics. (1).
2. Play ground and Gymnastic Movements. (1)
3. Dancing. (1).

Credit may be given for 1, 3, or 4 independent of the others.

15. **Technique of Competitive Games.** Tennis, golf, basket ball, base ball, foot ball, wrestling, boxing, fencing, etc. (*Credits to be arranged.*)

VII. Home Economics.

For courses in this subject, see the statement under the School of Agriculture. For Teachers College credit, special arrangement must be made with the Dean of Teachers College.

(C.) COURSES IN ARTS AND SCIENCE.

Courses of the Teachers College in Arts and Science subjects have a little different purpose from the corresponding work in the College of Arts and Science. While the cultural and content sides of these subjects are not neglected, the pedagogical aspect is especially emphasized. Teachers College students are, therefore, taught in different sections from those in the College of Arts and Science, and, as far as possible, by different instructors.

I. Botany.

Professor DUGGAR; Assistant Professor REED.

1a. **General Botany.** The first half of the semester is devoted to a study of the cell structure and the fundamental principles of plant physiology. The student is taught to set up experiments and to keep records of observations on plant activities. In the second half of the semester a series of cryptogams is studied from the point of view of development. (3).

1b. **General Botany.** This course continues the study of representative groups begun in 1a, dealing with the morphology and life histories of certain gymnosperms and angiosperms, concluding with some general work in Ecology. (3).

The foundation work in Botany is offered through courses 1a and 1b. These courses or their equivalents are prerequisites for all other regular work in the subject, and these at least should be taken by students who may teach in any branch of biological science.

Those who wish to secure a certificate to teach Botany in high schools should, in addition, elect from the courses offered in the College of Arts and Science. They should get advice in arranging their course.

For a course on the Teaching of Botany, see Education 20a.

II. English.

Professor BELDEN; Assistant Professor FAIRCHILD.

1. **English Composition and Rhetoric.** Detailed study and practice in construction and the kinds of Composition. Lectures, exercises and themes; class-room study of literature illustrative of the different kinds of Composition. (3). Professor BELDEN.

1A. **Introduction to the Study of Literature.** An elementary course for first year students, and preliminary to all other courses in literature. Selected readings from poets; some essays, probably from Carlyle and Stevenson. Emphasis upon the interpretation and appreciation of literature rather than upon its historical development. Lectures and quizzes. (2). Assistant Professor FAIRCHILD.

3. **English Literature, General View.** A general survey of English literature, for second year students. Interpretation of representative authors, with some emphasis upon historical development. *First semester*: Chaucer to Shakespeare. *Second semester*: Milton to the present. (3). Assistant Professor FAIRCHILD; Professor BELDEN.

Those wishing to secure a certificate to teach English in the high schools should elect, in addition, 11 and one or more of the following courses offered in the College of Arts and Science: 4, 7, 10.

For a course on the Teaching of English, see Education 22b.

III. German.

Professor ALMSTEDT.

1. **Beginning Course in German.** During the second semester easy prose-reading. It is the aim in this course to give in as thorough a manner as possible the essential facts of elementary German Grammar; pronunciation, forms, and syntax. Various forms of drill, oral and written, will aid in reaching the desired end; an accurate, thorough, and facile knowledge of Elementary German. (3). Text: Vos' Essentials of German.

Persons wishing to secure a certificate to teach German in high schools should, in addition, elect at least courses 2 and 3, offered by the College of Arts and Science under the head of Germanic Languages.

For a course on the Teaching of German, see Education 24b.

IV. History.

Professor TRENHOLME.

1. **European History.** An introductory course in which the history of the more important European nations during the mediaeval and modern periods will be dealt with in as comprehensive a manner as is consistent with thoroughness of knowledge and definiteness of outline. Students should have copies of the following texts: Trenholme's "Syllabus for the History of Western Europe;" Robinson's

"History of Western Europe;" and Robinson's "Readings in European History," (abridged ed.). (3).

2. **English History and Government.** A course dealing with the political, social, and governmental history of England from the earliest times to the present. The earlier or mediaeval portion of English History will be covered somewhat rapidly, while later the growth of the people in political and social importance will be emphasized, and the attention of the class will be directed to such topics as the formation of parliamentary government, social and economic changes and advances, and the final evolution of popular government. The basis of the course will be Cheyney's "Short History of England," and Cheyney's "Readings in English History," though collateral reading will also be assigned. (3).

3. **American History and Government.** A course in the general political and social development of the American people, with particular reference to the formation of the union and the history of the United States. The material in this course will be organized in such a manner as to help both elementary and high school teachers of American History and Government. Some standard text-books will be used as a guide to the work of the course, but a considerable amount of special reading will be required from the members of the class, and students will be expected to acquaint themselves with the leading works of reference and collections of sources. (3).

Students wishing to secure a certificate to teach History and Civics in the high schools should, in addition to the above, elect course 2b in Political Science offered by the College of Arts and Science. Greek and Roman History can also be taken with advantage.

For a course on the Teaching of History, see Education 25b.

V. Latin.

Dr. CANTER.

1A. **Cicero and Vergil.** *First Semester*: Selected orations and letters of Cicero, De Senectute or De Amicitia. *Second Semester*: Vergil's Aeneid. (3).

Persons wishing to secure a certificate to teach Latin in the high schools should, in addition, elect from the following courses offered by the College of Arts and Science, 1, 2, 3, 4, 5, 12b.

For a course on the Teaching of Latin, see Education 26b.

VI. Mathematics.

Assistant Professor AMES.

1. **Algebra, Trigonometry, and Analytic Geometry.** This course covers the same ground as course 1 in Mathematics in the announcement of College of Arts and Science. (3).

4. **Differential and Integral Calculus.** In addition to a thorough course in the Calculus this includes special supplementary work in Differential Equations and in Mechanics. (5).

15a or b. **History of Mathematics.** This course is designed to follow Education 28a. It presupposes a course in the Calculus, but by special arrangement may, in some cases, be taken with it. The aim is to present by reading and lectures the history of elementary mathematics, with special reference to the teaching of the subject, and a brief account of the history, meaning, and purpose of the Higher Mathematics. (2). Hours to be arranged.

For a course on the Teaching of Mathematics, see Education 28a.

Persons wishing to secure a certificate to teach Mathematics in high schools must take course 1, course 4 or 3 (College of Arts and Science), as many of the courses 10, 11a, 11b, 12a, 12b, offered by the College of Arts and Science, as is necessary to make up the required eighteen hours, and also Education 28a.

VII. Physical Geography.

Professor MARBUT.

2. **Physiography of North America.** A detailed study of the morphology of the surface of these two continents. It is designed for teachers of Physical Geography and for students who intend to specialize in Economics, History, or Sociology. (3).

3b. **Physiography of Europe.** A companion course to course 2. It is designed to meet the needs of the same class of students. (3).

6a or 6b. **Physical Geography.** This is a course of study in general Physical Geography, covering the ground of the average high grade text-book. It will be presented as a lecture, library, and laboratory course, and may be taken as a preparation for more advanced geographic work, or, as a preparation for teaching the subject in high schools. (3).

Course 6a or 6b is intended primarily for students who wish to teach Physical Geography and have not had a good course in that

subject in the high school. Courses 2 and 3b are especially adapted to the needs of students who are preparing to teach Physical Geography in the high schools of Missouri. However, students who wish to secure a certificate to teach Physical Geography should, in addition, elect the following courses in Geology offered by the College of Arts and Science: 4b, 5, and 9.

For a course on the Teaching of Geography, see Education 29a or 29b.

VIII. Physics.

Professor STEWART.

Two beginning courses are offered. Those who wish only a general information course, should take course 1; while those who have had Trigonometry and who desire a more thorough course, should begin by taking 3. In special cases students who have had only a good high school course in Physics may be admitted to 16 (see details in the announcement of the College of Arts and Science).

1. **General Physics.** This course is intended to cover in an elementary manner the fundamental principles of Physics. It is offered for the benefit of those who wish to acquire some knowledge of the simpler phenomena of Physics. (3). Two recitations and one laboratory each week.

3. **General Physics.** This course covers the same ground as course 1, but in a more thorough manner. An elementary knowledge of Trigonometry is required. This course is divided into two parts: 3A, *four times a week*, lectures and recitations, and 3B, *twice a week*, laboratory work. 3A may be taken alone. 3B may be taken in conjunction with 3A or subsequently. Those who have received credit for course 1 cannot receive full credit for course 3.

Persons desiring to secure certificates to teach Physics must elect, in addition to one of the above, from the courses as announced in the College of Arts and Science until they receive a total credit of at least 18 hours Courses 16, 12, 8, or 17 are open to those who have had course 1; or in case of sufficient mathematical attainments, courses 5, 6, 7, or 15 are open to those who have completetd 1 and 16, or 3A and 3B.

For a course on the Teaching of Physics, see Education 30b.

IX. Physiology and Hygiene.

Professor GREENE.

1. **Elementary Physiology.** This course is intended for students who desire a general knowledge of the physiology and personal hygiene of the human body. The circulation, respiration, digestion, and absorption will be given the First semester, and metabolism, muscle, nervous system, and sense organs the Second semester. Laboratory charge $4. (3).

For other courses in Physiology open to students of the Teachers College, see College of Arts and Science.

For a course on the Teaching of Physiology, see Education 31b.

COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

Historical Statement:

This college had its origin in the beneficence of National, State, and local governments. Its location, objects and aims are defined in the following extracts from the Acts of Congress and the laws of the State of Missouri:

"There are hereby established a College of Agriculture and Mechanical Arts at Columbia, and a School of Mines and Metallurgy at Rolla, provided for by the grant of the congress of the United States, as distinct departments of the University of the State of Missouri. (R. S. of Missouri, 1899, sec. 10504.)

"The leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." (Act of Congress, July 2, 1862, sec. 4.)

"To effect the leading objects of the colleges, as herein established, it is provided that the students and members thereof shall be admitted to the library, museums, models, cabinets, and apparatus, and to all lectures and instructions of the University, which now exist or may hereafter exist, and to all other rights and privileges thereof, in a manner as fully and ample as the students of any other department in said University; and to provide for instruction in military tactics, as herein required, it is enacted that in case a system of military

education shall be established by congress, the University of the State of Missouri is hereby required by law to make the necessary provisions for carrying out the plan so established in connection with the institution." (R. S. of Missouri, 1899, sec. 10507, p. 2017.)

"The College of Agriculture and Mechanic Arts and the School of Mines and Metallurgy, herein provided for, shall have each a separate and distinct faculty, whose officers and professors may be the same in whole or in part as the officers and professors in other colleges and departments of the University." (R. S. of Missouri, 1899, sec. 10508.)

The citizens of Boone county made a donation of $90,000 for the erection of a building and the purchase of lands for an experimental farm, and this College was permanently located at Columbia as a Department of the University, and the School of Mines and Metallurgy was located at Rolla, in Phelps county. The latter is under the same general control as the College of Agriculture and Mechanic Arts.

Endowment of the College:

1. The proceeds of the sale of public lands donated to Missouri by the act of Congress of July 2, 1862. The State received as her share two hundred and seventy-five thousand acres, of which there have been sold up to date two hundred and thirty thousand nine hundred and three acres, yielding three hundred and fifty-five thousand dollars. This sum is invested in State certificates of indebtedness, at 5 per cent, and yields seventeen thousand five hundred dollars. Of this amount one-fourth is by law appropriated to the support of the School of Mines and Metallurgy, at Rolla.

2. The annual appropriation of $25,000, under the act of Congress of August 30, 1890 (Morrill bill). Of this amount one-sixteenth is by law appropriated to the "Lincoln Institute," at Jefferson City, for the education of negro children in Agriculture and Mechanic Arts, and one-fourth of the remainder is given to the School of Mines and Metallurgy, at Rolla.

3. The College Farm, which cost originally $60,000.

4. $30,000 from Boone county.

The above sums, together with the assistance derived from the association of the College of Agriculture with the University, furnish an income for the purposes of instruction and scientific investigation.

A. SCHOOL OF AGRICULTURE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ALBERT ROSS HILL, Ph. D.,
President-elect of the University.

HENRY JACKSON WATERS, B. S. A.,
Dean of the Faculty, and Director of the Experiment Station.

PAUL SCHWEITZER, Ph. D., LL. D.,
Professor of Agricultural Chemistry.

EDWARD ARCHIBALD ALLEN, Litt. D.,
Professor of English Language and Literature.

JOHN WALDO CONNAWAY, D. V. S., M. D.,
Professor of Comparative Medicine, and Veterinarian to the Experiment Station.

JOHN CHARLES WHITTEN, B. S., M. S., Ph. D.,
Professor of Horticulture, and Horticulturist to the Experiment Station.

FREDERICK BLACKMAR MUMFORD, B. S., M. S.,
Professor of Animal Husbandry, and in charge of the Animal Husbandry Department of the Experiment Station.

†JOHN MOORE STEDMAN, B. S. C.,
Professor of Entomology, and Entomologist to the Experiment Station.

WILLIAM GEORGE BROWN, B. S., Ph. D.,
Professor of Chemistry.

CURTIS FLETCHER MARBUT, B. S., A. M.,
Professor of Geology, and in charge of the State Soil Survey.

GEORGE LEFEVRE, A. B., Ph. D.,
Professor of Zoology.

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†On leave of absence, session, 1907-08.

‡BENJAMIN MINGE DUGGAR, M. S., A. M., Ph. D.,
Professor of Botany.

MERRITT FINLEY MILLER, B. S., M. S.,
Professor of Agronomy, and Agronomist to the Experiment Station.

SIDNEY CALVERT, B. S. C., A. M.,
Professor of Organic Chemistry.

HENRY MARVIN BELDEN, A. B., Ph. D.,
Professor of English Language and Literature.

CHARLES HENRY ECKLES, B. S. Agr., M. S.,
Professor of Dairy Husbandry, and in charge of the Dairy Department of the Experiment Station.

HERMAN SCHLUNDT, B. S., M. S., Ph. D.,
Professor of Physical Chemistry.

WALTER LAFAYETTE HOWARD, B. S., M. S., Ph. D.,
Professor of Horticulture.

PERRY FOX TROWBRIDGE, Ph. D.,
Professor of Agricultural Chemistry, and Chemist to the Experiment Station.

EDNA D. DAY, B. S., M. S., Ph. D.,
Assistant Professor in Charge of Home Economics.

MURRAY SHIPLEY WILDMAN, M. A., Ph. D.,
Assistant Professor in Charge of Economics.

*ROSCOE HART SHAW, B. S.,
Assistant Professor of Dairy Husbandry.

GEORGE M. REED, Ph. D.,
Assistant Professor in charge of Botany.

EDWIN A. TROWBRIDGE, B. S. A.,
Instructor in Animal Husbandry.

HARRY SELWIN WAYMAN, B. S.,
Instructor in Dairy Husbandry.

CHARLES ALBERT WILLSON, B. S.,
Instructor in Animal Husbandry.

HAROLD DEMOTT HUGHES, B. S.,
Instructor in Agronomy.

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‡Resigned.

*In the service of the United States Government.

FRANK AGRELIUS, A. B.,
Instructor in Botany.

LEONARD HASEMAN, A. B.,
Instructor in Entomology.

JAMES ANDREW GIBSON, B. A., M. A.,
Instructor in Chemistry.

ERNEST HOWARD FAVOR, A. B.,
Assistant Horticulturist to the Experiment Station.

WILLIAM HENRY CHANDLER, B. S., M. S.,
Assistant in Horticulture.

RAY CLAUDE DONEGHUE, B. S.,
Assistant in Soil Survey.

*FRANKLIN GEORGE KING, B. S. A.,
Assistant in Animal Husbandry.

ALBERT EDWARD PERKINS, B. S.,
Assistant in Dairying.

CHARLES WILLIAM RINE, B. S. A.,
Assistant in Animal Husbandry.

L. G. RINKLE, B. S.,
Assistant in Dairy Husbandry.

CHARLES ROBERT MOULTON, B. S.,
Assistant in Agricultural Chemistry.

NORMAN HENDRICKSON, A. B.,
Assistant in Agricultural Chemistry.

LEON FRANCIS SHACKELL,
Assistant in Agricultural Chemistry.

LEONARD DIXON HAIGH, A. M.,
Assistant in Agricultural Chemistry.

EDGAR NEWTON LARUE, D. V. S.,
Assistant in Veterinary Medicine.

CLAUDE BURTON HUTCHISON,
Assistant in Animal Husbandry.

HENRY PERLEY RUSK,
Student Assistant in Animal Husbandry.

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*In the service of the United States Government.

ROBERT FRANCIS HOWARD,
Student Assistant in Botany.

JOHN HOWARD SNOW,
Student Assistant in Entomology.

ROBERT MILTON SMITH,
Student Assistant in Chemistry.

LEWIS KNUDSON,
Student Assistant in Botany.

LOUIS OTTO KUNKEL,
Student Assistant in Botany.

MARY LUCILLE KEENE,
Student Assistant in Botany.

WEBSTER NEWTON JONES,
Student Assistant in Chemistry.

ARTHUR RHYS,
Herdsman.

JOHN SCHNABEL,
Gardener.

J. G. BABB, M. A.,
Secretary.

R. B. PRICE, B. S.,
Treasurer.

S. E. KENNEDY,
Clerk.

LECTURERS.

‡D. F. LUCKEY, D. V. S.,
State Lecturer on Livestock Sanitation.

*GEORGE REEDER, SECTION DIRECTOR, U. S. W. B.,
Lecturer on Climatology.

REQUIREMENTS FOR ADMISSION.

For information in regard to the requirements for admission to the Collegiate Course in Agriculture, see pages 71-81.

No entrance examination or special preparation is required for admission to the Short Winter Courses.

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‡In the service of the State Board of Agriculture.

*In the service of the United States Government.

FACILITIES FOR INSTRUCTION.

Buildings:

New Agricultural Building. One hundred thousand dollars were appropriated by the last Legislature for a new Agricultural Building. Work will begin on this building immediately. It will be ready for occupancy by the opening of the second semester of the College Year, 1908-09. In this building will be housed the Administrative offices of the Agricultural College and of the Experiment Station; also the State Board of Agriculture, including offices of State Veterinarian, State Food and Dairy Commissioner, and State Highway Engineer, the State Soil Survey Laboratories as well as those of Agronomy and Animal Husbandry. The chemical laboratories of the Experiment Station will be on the second floor, and also the laboratories for student instruction in Agricultural Chemistry. Excellent library reading room facilities will also be provided here.

Agricultural Hall, containing offices of Dean and Director, class-rooms and offices of the Professors of Animal Husbandry and Agronomy, office of Secretary of the State Board of Agriculture, office of Division Chief of the United States Weather Bureau, and Agricultural Museum.

Horticultural Hall, a stone building 120x54 feet, two stories and a well-lighted basement with plant house and insectary each 16x50 feet, contains class-rooms, laboratories, offices and preparation rooms for Horticulture, Botany and Entomology.

Dairy Hall, a stone building 45x150 feet, two stories, with cheese curing room in basement, contains large rooms for creamery manufactures, cheese-making room, dairy work, milk-testing laboratory, offices, class-rooms, etc.

Numerous Barns, including a large cattle barn, a cattle-feeding shed 300x30 feet, a sheep barn, dairy barn, implement shed, and smaller structures.

Farm Machinery Laboratory, a commodious building of stone for laboratories of farm implements and machinery.

Shops, containing work rooms for carpentering, blacksmithing, and wood and iron turning.

Instruction is also given to Agricultural students in the buildings for *Chemistry, Zoology, Physics and Academic Hall.*

Laboratories:

Live Stock Laboratory, containing rooms for the Department of Veterinary Science, Breeding Laboratory, and Stock Judging Pavilion.

Laboratories for Botany. General laboratories for physiological and structural Botany, and special laboratories and culture rooms for phases of the physiological and mycological work, are located in Horticultural Hall. The laboratories are equipped with compound dissecting microscopes, microtomes, steam and steam-pressure sterilizers, incubators, balances and necessary glassware; an herbarium of Missouri plants and general collections from all parts of the country. The Forty-third General Assembly has appropriated funds for the erection and equipment of laboratories for practical and experimental work in plant physiology and pathology, which will give facilities enjoyed by very few institutions in the country.

Laboratories for Agricultural Chemistry. The laboratory for undergraduate instruction in Agricultural Chemistry is located in the Chemistry Building. The laboratory is well equipped for the study of Quantitative methods in Agricultural Chemical Analysis. The Chemical Laboratories of the Experiment Station are located in the Dairy Building, and provide ample facilities for instruction for advanced students and for special research in animal nutrition, in analyses of fertilizers, foods, feeding stuffs, including detection of adulterations, artificial coloring, etc. Special opportunity is offered for a study of provisional and official methods of the Association of Official Agricultural Chemists.

Laboratories for Entomology. The laboratories are located in the new Horticultural Hall, and have in connection a new insectary. The laboratories are supplied with microscopes, dissecting instruments, microtomes, breeding cages, aquaria, spraying machines, insecticides and re-agents. The museum contains collections of the more important injurious, and beneficial insects, arranged to illustrate their habits of work and life history. There are several thousand species of adult insects from all orders correctly classified and labeled. Twelve current periodicals on Entomology are regularly received.

Laboratories for Horticulture. The laboratory facilities of the Horticultural Department comprise the following:

The experimental grounds, comprising about 1,000 varieties of fruits and a good collection of ornamental shrubs and trees, furnish excellent facilities for field laboratory work, such as methods of planting, pruning, cultivation, etc.

The department has about 3,000 square feet of forcing house space under glass, which gives opportunity for work in plant propagation and forcing house methods.

In the basement of the Horticultural building are commodious

rooms for the winter storage of dormant trees, cuttings, bulbs, stocks, scions, etc., and for performing such work as grafting, budding, making cuttings and general winter nursery work.

Farm Machine Laboratory. A laboratory well equipped for the study of modern farm implements and machinery.

Other Laboratories. There are well-equipped laboratories in Agronomy, Agricultural Chemistry, Veterinary Science, Dairying, Geology, Zoology and Physics.

Libraries:

The library for Agriculture and allied subjects has been carefully selected, and it is believed to be one of the best collections of agricultural books west of the Mississippi river.

Farm and Live Stock:

A farm comprising 615 acres is used chiefly for instruction and for agricultural experiments, the experiments including tests of field crops, feeding experiments with cattle, hogs and sheep, breeding experiments and investigations in Horticulture, Entomology, Botany, etc. These experiments are of the greatest possible value to students in the regular courses.

Live Stock. The College maintains herds of cattle, swine and specimen flocks of different breeds of sheep. We now have specimens of the Shorthorn, Hereford, Aberdeen Angus, Ayrshire, Jersey and Holstein breeds of cattle. In addition to these, one hundred feeding cattle are kept continuously on the farm. Duroc Jersey, Berkshire, Tamworth, and Poland China swine are available for instruction.

Practical Excursions:

Visits to successful farms and breeding establishments are made under the guidance of an instructor for the study of special phases of Agriculture. The principles taught in the class-room are thus observed in their application to agricultural operations on well-managed farms.

Dairy Husbandry:

The facilities for teaching Dairying include a well-equipped creamery room 40x51 feet, arranged for ten power separators and churns; a cheese-room 40x42 feet; a farm dairy room 22x40 feet; rooms for pasteurizing, refrigerating and cold storage; milk testing and research laboratories; a library and lecture room. A new laboratory for Dairy Bacteriology has been recently equipped. The dairy manufactures 300 to 500 pounds of butter each week throughout the year.

I. SHORT WINTER COURSES.

(See Special Circular.)

The School of Agriculture now offers three Short Winter courses as follows: Plant Production; Animal Husbandry; Dairying.

Each of these is a special course designed to occupy the entire time of the student.

It is the aim to give the student the largest amount of thoroughly practical information about farming, stock breeding, stock judging, dairying, gardening, fruit-growing, veterinary science, possible in eight weeks, and, at the same time, instruct him in the elements of Chemistry, Entomology, and Botany as applied to Agriculture and Horticulture.

To suit the convenience of farmers these courses are given in the winter. They are open to all over sixteen years of age, and no entrance examination or special preparation is required. An entrance fee of $5 and a fee of $2 for each laboratory or shop taken cover all college expenses.

Full details of all of these short courses will be given in a special circular, which will be ready for distribution in September, 1908, and will be sent free upon application to the Dean of the College.

Course in Plant Production:

This course is entirely devoted to the study of plant production, including Horticulture. It includes lectures and demonstrations on growing, cultivating, harvesting, and marketing of farm and garden crops. In addition to the above subjects, students will be required to take certain courses on Soils, special work in Botany, Agricultural Chemistry, Entomology, and Land Draining.

Course in Animal Husbandry:

In this course the student's time is occupied in the study of feeding, breeding, judging, and general management of farm animals. Actual examination of the animals representing the approved types gives the student a practical knowledge of the best types for the various purposes of the farm.

Course in Dairying:

This course is designed especially for those who wish to obtain a knowledge of modern dairy practice as related to the creamery and the cheese factory, and at the same time to study the scientific principles upon which this practice is based.

The facilities for teaching dairying provided by our new building

and equipment are unexcelled. While special attention will be given to the manufacture of dairy products, feeding for the production of milk and study of dairy breeds and dairy types will be included. The dairy building is supplied with a complete equipment for separating and testing milk, making butter and cheese, and pasteurizing milk.

II. COLLEGIATE COURSES IN THE COLLEGE OF AGRICULTURE.

The College offers two courses leading to the degree of Bachelor of Science:

1. The Agricultural Course.
2. The Course in Home Economics.

1. AGRICULTURAL COURSE.

The Agricultural Course is designed to train young men for the business of farming. In addition to this, it serves to meet the constantly increasing demand for men trained in agriculture to fill the positions of farm managers, experiment station workers, and teachers of agriculture—a demand which thus far the agricultural colleges of the country have not been able to supply.

Required Work:

All students who are candidates for a degree in Agriculture must satisfactorily completet 120 hours of work. Of this work 83 hours must consist of subjects laid down in the schedules which follow. See pages ——.

Degrees:

The degree of Bachelor of Science in Agriculture is conferred upon all students who successfully complete this course.

The degree of Master of Science in Agriculture is conferred upon graduate students who have successfully completetd at least one year of graduate work and submitted a satisfactory thesis.

Graduate Work:

The College of Agriculture fosters and encourages graduate work. Each technical department offers advanced courses leading to graduate degrees. The demand for thoroughly trained investigators and teachers is rapidly increasing and the graduate department aims to give the thorough training desired.

The degree of Doctor of Philosophy is given by the College of Agriculture under conditions prescribed by the Faculty and described in the Announcement of the Graduate Department.

COURSE OF INSTRUCTION—REQUIRED WORK.

FRESHMAN YEAR.

First Semester.

	8	9	10	11	12	2	3	4
Monday....	Eng. 1.	Hort. Lect. 1a.		Animal Hus. Sec. 1 1a. Botany " 3 1a.		An. Hus. Sec. 3 1a. Botany " 2 1a.		
Tuesday...	Chemistry Lab. 3			Animal Hus. Sec. 2 1a. Botany " 1 1a.				
Wed'sday..	Eng. 1.	Hort. Lect. 1a.		Animal Hus. Sec. 1 1a. Botany " 3 1a.		An. Hus. Sec. 3 1a. Botany " 2 1a.		
Thursday..	Chemistry Lab. 3			Animal Hus. Sec. 2 1a. Botany " 1 1a.		Hort. Lab. Sec. 1 1a.		
Friday.....	Eng. 1.	An. Hus. 1a.	Bot. Lect. 1a.	Chem. Rec. 3	Chem. Rec. 3	Hort. Lab. Sec. 2 1a.		

Second Semester.

	8	9	10	11	12	2	3	4
Monday...	**Eng. 1**	**Agron. Lec. 1b.**		Animal Hus. Sec. 1 1b. Agronomy Lab. " 2 1b. Botany " 3 1b.		**An. Hus. Sec. 3 1b. Agron. " 1 1b, Botany " 2 1b.**		
Tuesday...	**Chemistry Lab. 1**			**Animal Hus. Sec. 2 1b. Agronomy " 3 1b. Botany " 1 1b.**		**Dairy Lab. Sec. 1 1b.**		
Wed'sday..	**Eng. 1**	**Dairy Lect. 1b.**		**Animal Hus. Sec. 1 1b. Agronomy " 2 1b. Botany " 3 1b.**		**Animal Hus. Sec. 3 1b. Agronomy " 1 1b. Botany " 2 1b.**		
Thursday..	**Chemistry Lab. 3**			**Animal Hus. Sec. 2 1b. Agronomy " 3 1b. Botany " 1 1b.**		**Dairy Lab. Sec. 2 1b.**		
Friday.....	**Eng. 1**	**Dairy Lect. 1b.**	**Bot. Lect. 1b.**	**Chem. Rec. 3**	**Chem. Rec. 3**	**Dairy Lab. Sec. 3 1b.**		

COURSE OF INSTRUCTION—REQUIRED WORK—Continued.

SOPHOMORE YEAR.

First Semester.

	8	9	10	11	12	2	3	4
Monday...	Elective Laboratory			Agron. Lect. 2a.		Zoology Lab. 1		
Tuesday...	El. Org. Chemistry 5a.			Elective Laboratory		Vet. Anat. Lab. 1a.		
Wed'sday..	Elective Laboratory			Agron. Lect. 2a.	Vet. Anat. Lect. 1a.	Zoology Lab. 1		
Thursday..	Elec. Lect.	Zool. Lect. 1		Elective Laboratory		Vet. Anat. Lab. 1a.		
Friday.....	Elective Laboratory			Agron. Lect. 2a.		El. Org. Chem. 5a.		

Second Semester.

	8	9	10	11	12	2	3	4
Monday....	**Elective Laboratory**			**Hort. Lect. 4b.**		Zoology Lab. 1		
Tuesday...	**Elective Laboratory**			**Chemistry Laboratory 2½b.**		Vet. Phys. Lab. 2b.		
Wed'sday..	**Elective Laboratory**			**Hort. Lect. 4b.**	**Vet. Phys. Lect. 2b.**	Zoology Lab. 1		
Thursday..	**Elective Lect.**	**Zool. Lect. 1**		**Chemistry Laboratory 2½b.**		Vet. Phys. Lab. 2b.		
Friday.....	**Chemistry Laboratory 2½b.**			**Hort. Lect. 4b.**				

COURSE OF INSTRUCTION—REQUIRED WORK—Continued.

JUNIOR YEAR.

First Semester.

	8	9	10	11	12	2	3	4
Monday....	**Elect.**	**An. Hus. Lect. 2a.**	Vet. Lect. 3a. Bot. Lect. 9a.	Agr. Chemistry Lect. 1		Elective		
Tuesday...	**Elect.**	**Agron. Lect. 8a.**		Vet. Med. Laboratory 3a. Botany " 9a.		Elective		
Wed'sday..	**Elect.**	**An. Hus. Lect. 2a.**		Agr. Chem. Laboratory 1		Elective		
Thursday..	**Elect.**	**Agron. Lect. 8a.**		Vet. Med. Laboratory 3a. Botany " 9a.		Elective		
Friday.....	**Elect.**	**An. Hus. Lect. 2a.**		Agr. Chem. Laboratory 1		Agronomy Lab. 3a.		

Second Semester.

	8	9	10	11	12	2	3	4
Monday....	Hort. Lect. 5b.	An. Hus. Lect. 3b.	Elective			Agronomy Lab. 3b.		
Tuesday...	Elective		Elective			Elective		
Wed'sday..	Hort. Lect. 5b.	An. Hus. Lect. 3b.	Elective			Agronomy Lab. 3b.		
Thursday..	Elective			Agron. Lect. 3b.		Elective		
Friday.....	Hort. Lect. 5b.	An. Hus. Lect. 3b.	Elective			Elective		

COURSE OF INSTRUCTION—REQUIRED WORK—Continued.

SENIOR YEAR.

First Semester.

	8	9	10	11	12	2	3	4
Monday....		Geol. of Soils. 4a.						
Tuesday...								
Wed'sday..		Geol. of Soils. 4a.						
Thursday .								
Friday.....		Geol. of Soils. 4a.						

Second Semester.

	8	9	10	11	12	2	3	4
Monday....		Ent. 2b.						
Tuesday...								
Wed'sday..		Ent. 2b.						
Thursday.								
Friday.....		Ent. 2b.						

CONDITIONS GOVERNING ELECTIVES.

Electives may be chosen from any department of the University.

Students who do not present a credit in entrance Physics are required to take one semester of Physics 1, preferably in the first semester of the Sophomore year, as indicated in the Course of Instruction.

LINES OF SPECIALIZATION.

The Course of Instruction is arranged to give the student a thorough knowledge of the fundamentals underlying the science of agriculture and, if the electives are properly chosen, a comprehensive and well balanced course in general agriculture will be secured. Six lines of specialization are also open to students, as follows: Agronomy, Animal Husbandry, Dairying, Horticulture and Botany, Veterinary Medicine, and Agricultural Chemistry. Students desiring to specialize in any of the above subjects are strongly advised to choose their electives as recommended below. The following groups of electives are recommended for students wishing to specialize in the various technical subjects offered in the College of Agriculture.

Groups of subjects from which students are advised to select their electives:

AGRONOMY.

Mycology	3 hours
Plant Physiology	3 hours
Evolution of Cultivated Plants	3 hours
Advanced Analysis (Chemical)	6 hours
General Physics	6 hours
German	6 hours
Agronomy	15 hours

AGRICULTURAL CHEMISTRY.

General Chemistry	3 hours
Organic Chemistry	3 hours
Quantitative Chemistry	3 hours
Agricultural Chemistry	3 hours
Organic Analysis	3 hours
Water Analysis	2 hours
Physical Chemistry	3 hours
Agricultural Chemistry, Research with Thesis	10 hours

ANIMAL HUSBANDRY.

Physiological Chemistry (4b) ..... 3 hours
Zoology (6b and 8)..... 9 hours
Veterinary Science or Dairy Husbandry..... 6 hours
Animal Husbandry .....10 hours
German . ..... 6 hours

BOTANY AND HORTICULTURE.

Mycology . ..... 6 hours
Morphology of Seed Plants..... 3 hours
Evolution of Cultivated Plants..... 3 hours
Forestry . ..... 3 hours
Landscape Gardening ..... 3 hours
German . ..... 6 hours
General Physics ..... 3 hours

The remaining hours should be taken in advanced work in Botany or Horticulture, depending upon the inclinations of the student.

DAIRY HUSBANDRY.

Agronomy:
4a. Farm Architecture ..... 3 hours
5b. Farm Engineering ..... 3 hours
Veterinary Medicine ..... 3 hours
Animal Husbandry:
5b. Beef Production ..... 2 hours
6b. Sheep Production ..... 1 hour
7b. Pork Production ..... 1 hour
8b. Stock Farm Management ..... 2 hours
Dairy Husbandry:
2b. Milk Production ..... 3 hours
3a. Dairy Bacteriology ..... 3 hours
4a. Cheese Making ..... 3 hours
5a. Dairy Manufacturing ..... 3 hours
Dairy Seminar ..... 2 hours
Other Electives, which shall include either Economics or a Modern Language..... 3 hours

VETERINARY MEDICINE.

Students who intend to specialize in Veterinary Medicine, with the view of becoming veterinary teachers, investigators or practitioners, will be given advice in regard to the selection of their Electives from courses offered in the various departments of the Colleges of Agriculture, Medicine, and Art and Science.

COURSES IN DETAIL.

[Courses designated by a number with the letter a attached, thus: 4a, 6a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, 6b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Short Winter Courses are indicated by the letter w after the number. Arabic numerals in parenthesis indicate the number of hours credit a semester. For hours and days, see schedule of study.]

Agricultural Chemistry.

Professor TROWBRIDGE; Mr. MOULTON.

For Undergraduates.

1a. **Agricultural Chemistry.** In this course is studied the methods of analysis of fertilizers, soils, feeding stuffs, dairy products, etc., including a study of the interpretation of the analytical results. This course presupposes a knowledge of the principles of quantitative chemical analyses. One recitation and two laboratory periods each week.

For Undergraduates and Graduates.

2. **Advanced Agricultural Chemistry.** This course is a continuation of 1a and may be taken *either semester.* Only a limited number of students can be accommodated at a time. A critical study of methods in use in the chemical laboratories of the Experiment Station will be made, including an examination of foods and feeding stuffs for adulteration, etc. This work is planned primarily for those who wish to fit themselves for the work of experiment station and city food laboratories. Elective, three to five periods a week, including one lecture or recitation each week.

3. **Research in Agricultural Chemistry.** This course is open only to those who can show an especial fitness for chemical investigation and who wish to investigate some special chemical problem within the province of the department. The department offers special advantages for investigation of problems in animal nutrition, composition of animal fats as affected by feeding, age, breed, etc., the chemical problems involved in the Dairy industry, the composition of meats, feeding stuffs, fertilizer, soils, etc. Those wishing to make a special study of the problem presented by the recent state and national laws relating to food and food products can select in accordance with their particular line of work. Not less than five periods a week, credit and hours arranged.

Agronomy.

Professor MILLER; Mr. HUGHES; Mr. HUTCHISON; Mr. ———.

Prescribed Courses.

1b. **Grain Judging.** Judging and commercial grading of corn, wheat, oats and potatoes; characteristics and history of the standard varieties; a study of weeds—character of the seed and the best methods of eradication. One lecture and two laboratory periods. (2).

2a. **Crop Production.** A study of the methods of producing and handling cereals and forage crops. Two lectures and one laboratory period. (2).

3a. **Soil Physics.** A study of the various methods of soil formation; physical properties of soils, and their relation to tillage and the preparation of seed beds; mechanical composition and classification of soils. Two lectures and one laboratory period. (3). Prerequisite—One unit in entrance Physics or *first semester* of Physics 1.

3b. **Soil Fertility.** A study of the chemical properties of soils in their relation to the maintenance of soil fertility; the influence of supplied fertility upon the yield of various crops and the wealth of fertility of soils of different types from different sections of the state. One lecture and two laboratory periods. (3).

Prerequisite—Chemistry 1 and 2. Agricultural Chemistry 1, and Agronomy 2a.

Elective Courses.

4a. **Farm Architecture.** A study of methods of constructing farm buildings, farm fences and conveniences, and the preparation of plans for farm buildings on the average farm. Two lectures and one drawing period. (3).

5b. **Farm Engineering.** A study of the principles of farm mechanics as applied to farm machinery and farm power, together with a study of methods of farm drainage, road building and land measurements. Two lectures and one laboratory period. (3).

6a. **Soil Investigations.** A study of special soil problems, both in soil fertility and in soil physics. Particular attention will be given to recent investigations in soils. Lectures and laboratory practice. (3).

7b. **Field Crop Management.** A study of crop rotations and cropping systems and the effect of different systems upon continued economic production; the use of forage, catch and cover crops in various systems of cropping. (3). Prerequisite—Agronomy 1b and 2a.

8a. **Special Grain Judging.** Designed for those who wish to become efficient grain judges or those who wish to qualify for corn judging contests and for certified corn judges. One lecture and two laboratory periods. (3). Prerequisite—Agronomy 1b.

9a. **Cereal Breeding.** A study of the methods of plant breeding as applied to cereals and forage crops. (3). Prerequisite—Agronomy 1b and 2a.

10b. **Institute Methods.** The purpose of this course is to train men to meet the constantly growing demand for capable and forceful speakers on Agricultural and allied topics at institutes and other meetings of a like nature. The aim of the course will be to train the student in methods of presenting an agronomy subject in an interesting and forceful manner, thereby making his agricultural training of the greatest value to himself and to the community. (2).

11w. **Soils and Fertilizers.** A study of the underlying principles of soil fertility and the maintenance of the productive capacity of soils through the application of proper methods of soil handling; the preservation and application of farm yard manure; the relative value of different manures and fertilizers; the use and application of commercial fertilizers; the manurial value of crops and methods of using them to maintain soil fertility.

12w. **Crop Production.** A study of the different farm crops, the best varieties, rotation and cultivation; seed treatment, judging, testing and grading; discussion of promising crops, as cowpeas, alfalfa, etc.

Primarily for Graduates.

13. **Seminar.** The discussion of papers having to do with recent investigations in Agronomy. Students will be required to present papers for discussion at regular intervals. (1).

14. **Research Work in Agronomy.** The investigation of particular problems in Agronomy, suited to those who are capable of doing advanced or graduate work.

Animal Husbandry.

Professor MUMFORD; Dean WATERS; Mr. TROWBRIDGE; Mr. WILLSON; Mr. KING; Mr. RINE.

1a and 1b. **Live Stock Judging.** A study of animal form and character, especial attention being given to the market classes and grades of livestock, and also to the indications of feeding quality, constitutional vigor, sexuality, capacity for the production of meat, milk, wool, work and speed. 1a *First semester.* (3). 1b *Second semester.* (2). Mr. TROWBRIDGE; Mr. KING; Mr. RINE.

2a. **Principles of Feeding.** The laws of animal nutrition; an adaptation of the facts of physiological chemistry to the subject of stock feeding. (3). Required. Junior. Mr. WILLSON.

3b. **Animal Breeding.** A treatment of the principles and practices involved in the improvement of the domestic animals. The course includes a discussion of the subjects of reproduction, variation, heredity, selection, inbreeding, cross-breeding, grading and other subjects correlated with the breeding and improvement of farm animals. The course is intended to give the student a working knowledge of the science and art of animal breeding. (3). Required. Junior. Professor MUMFORD.

4a. **Breeds of Live Stock.** History, development and characteristics of the leading breeds of live stock; pedigrees and performances of superior individuals among horses, cattle, sheep, and swine. (3). Elective. Professor MUMFORD; Mr. WILLSON.

5b. **Beef Production.** A discussion of practical methods of beef production, including a consideration of successful practices in feeding for market, fitting for show and general care and management of beef cattle. During April and May. (2). Elective. Dean WATERS.

6b. **Sheep Production.** Best systems of sheep husbandry; rearing for mutton and wool; production of spring lambs; fattening sheep and lambs for the market; general care and management of the breeding flock. During March. (1). Elective. Professor MUMFORD.

7b. **Pork Production.** The feeding of hogs for market; the management of the breeding herd, and a study of foodstuffs, with

reference to their adaptability to pork production. During February. (1). Elective. Assistant Professor ———.

8b. **Stock Farm Management.** Successful methods of operating farms devoted chiefly to live stock production. A study of the best systems applied to Missouri conditions. (2). Elective for Juniors and Seniors only. Professor MUMFORD.

9b. **Horse Production.** Market classes of horses, their production and utility, care and management of breeding and growing horses, fitting horses for sale and show, successful practical methods of handling and training horses. (1). Elective. Mr. TROWBRIDGE.

10b. **Advanced Live Stock Judging.** A study of the various classes of farm animals, with particular reference to breed character and differences. The practical methods of show yard judging: relation of pure-bred livestock to market classes. The major portion of the work is done by the method of comparative judging. (2). Elective. Mr. TROWBRIDGE.

11a. **Advanced Live Stock Judging.** A continuation of the work given in course 10b by the method of comparative judging. This course includes practical excursions to livestock shows and noted breeding farms. Must be preceded by courses 1a and 1b. (3). Elective. Mr. TROWBRIDGE.

For Undergraduates and Graduates.

12. **Seminar.** Special investigation bearing on selected lines in Animal Husbandry. The preparation and presentation of papers for discussion by the class. Twice a week. Elective. Professor MUMFORD.

13. **Experimental Feeding.** Original investigations of important problems in feeding cattle, sheep and swine. This course is intended to give experience in methods of experimental work and to make the student familiar with the most approved methods of investigation. Elective. Professor MUMFORD; Mr. TROWBRIDGE; Mr. WILLSON.

Primarily for Graduates.

14. **Animal Breeding.** Research in special subjects bearing on the inheritance and development of characters in the domestic animals. Professor MUMFORD.

15. **Zoometry.** Special investigation of the relations of form and function in the domestic animals. Professor MUMFORD; Mr. KING.

SUBJECTS IN SHORT WINTER COURSE.

16w. **Stock Feeding.** The composition and digestibility of feeding stuffs; the preservation and preparation of coarse fodders; grinding, steaming and cooking food; feeding standards and the calculation of rationss; feeding for meat, milk, wool, fat, growth and work. Mr. WILLSON.

17w. **Animal Breeding.** The principles of breeding; heredity, variation and selection; the method of grading, in-breeding, cross-breeding, and line breeding; special problems, such as the influence of environment on fecundity, influence of previous impregnation and the possibility of controlling the sex of offspring. Professor MUMFORD.

18w. **Live Stock Judging.** By means of the score card the students are first familiarized with the details of the conformation and quality of domestic animals. The score card judging is followed by competitive judging of sheep, swine, horses and mules. Mr. KING; Mr. RINE.

Note: In addition to the above courses, the Department of Animal Husbandry also offers courses in Beef, Pork, Mutton and Horse Production, in Breeds of Live Stock and in Stock Farm Management, to the students in the Short Winter Course. Courses marked w are offered to students in the Short Winter Course only.

Botany.

Professor ‡DUGGAR; Assistant Professor (in charge) REED; ‡Dr. SHANTZ; Mr. AGRELIUS; Mr. COCKEFAIR; Mr. KNUDSON; Mr. HOWARD; Miss KEENE; Mr. KUNKEL.

For Undergraduates.

1a. **General Botany.** The first of the semester is devoted to a study of cell structure and the fundamental principles of plant physiology. The student is taught to set up experiments and to keep records of observations on plant activities. In the second half of the semester a series of typical cryptogams is studied from the point of view of development. (3). Professor DUGGAR; Assistant Professor REED; Dr. SHANTZ; Mr. COCKEFAIR; Mr. KNUDSON; Mr. HOWARD.

1b. **General Botany.** This course continues the study of representative groups begun in 1a, dealing with the morphology and the life histories of certain gymnosperms and angiosperms, concluding with some general work in ecology. (3). Assistant Professor REED; Mr. AGRELIUS; Mr. COCKEFAIR; Mr. HOWARD; Miss KEENE.

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‡Resigned.

2a. **Morphology and Classification of Seed Bearing Plants.** A comprehensive study of representative groups and their relationships. (3). Dr. SHANTZ.

3b. **Ecology.** A study of the environment and its effects upon the plant, followed by a study of plant association, invasion, succession, and geography. (3). Dr. SHANTZ.

4b. **Morphology and Physiology of the Bacteria.** A general course in the fundamental principles of bacteriology, in which the Bacteria are considered from the Botanical standpoint. The importance of these organisms in their relations to agriculture, the processes of fermentation and decay, plant and animal diseases, etc., is emphasized. (3). Assistant Professor REED; Mr. AGRELIUS.

5a. **Economic Plant Geography.** A study of the distribution of useful plants as grown or exploited, with reference to environment. (1). Professor DUGGAR.

For Undergraduates and Graduates.

6a. **Mycology.** A course in the morphology and physiology of the fungi. Types of the principal groups are studied in the laboratory, special attention being given to the parasitic forms. Assistant Professor REED.

7b. **Advanced Mycology.** In this course the fungi are studied more from the pathological standpoint. Infection experiments are made with the parasitic fungi, including the bacteria parasitic on plants; the period of incubation, the manner of infection, the character of the disease, and, to a certain extent, methods of combating the organism causing the disease are considered. This course should be preceded by course 6a. Assistant Professor REED.

8a. **Embryology and Cytology.** A comparative study of the embryology of representative green plants, cytology and microtechnique.

9a. **Advanced Physiology.** Lectures and experimental work on absorption, nutrition, and growth, and the effects of external stimuli upon plant functions and structures. (3). Professor DUGGAR.

10a. **The Principles of Evolution as Applied to the Study of Plants.** (1). Professor DUGGAR.

11. **Special Problems.** A preliminary to graduate research, and in exceptional cases, special training in lines not sufficiently emphasized in general courses. Laboratory work and a bi-weekly conference for presentation of reports on work assigned. Adequate fun-

damental work is essential. (3). Professor DUGGAR; Assistant Professor REED; Dr. SHANTZ.

Primarily for Graduates.

12. **Research.** Problems for investigation may be assigned in any of the general lines of work for which the student may be best prepared. *Three or more hours.* Professor DUGGAR; Assistant Professor REED; Dr. SHANTZ.

13. **Seminary.** The seminary offers to advanced students an opportunity to become familiar with current work in Botany. Reports on appropriate topics will be required, as well as reports on any research work in progress. (1). Professor DUGGAR; Assistant Professor REED.

Chemistry.

Professor BROWN; Professor CALVERT; Mr. GIBSON; Mr. RANDALL; Mr. SMITH; Mr. JONES.

3. **General Inorganic Chemistry.** Lectures, laboratory work, problems, and recitations. Lectures or recitations (one); laboratory (two). (3).

5a. **Elementary Organic Chemistry.** See page 139.

25b. **Quantitative Chemistry.** An introductory laboratory course in quantitative methods. (3).

Dairy Husbandry.

Professor ECKLES; Assistant Professor SHAW; Mr. WAYMAN; Mr. RINKLE.

1b. **Elements of Dairying.** This course includes two lectures and one laboratory period a week. The lectures treat of the secretion and composition of milk and the causes of variations; the Babcock test applied to milk, and other products; use of the lactometer; the various methods of cream raising, including a study of the centrifugal separators; the ripening of cream; modern methods of making and marketing butter; judging quality of butter; proper handling of milk on the farm; the relation of the factory and private dairy to the farmer. The laboratory work includes testing milk and other dairy products, separating cream and making butter. (3).

2b. **Milk Production.** This course covers the field of dairying in its relation to the producer rather than the manufacturer. The selection, breeding and building up of a dairy herd are considered;

the proper care under different conditions; the growing of crops with the dairy as the center of the system; the use of the silo; special problems of feeding for milk production; marketing dairy products; production of certified milk; the use of by-products from the dairy. (2).

3a and 3b. **Dairy Bacteriology.** In this course the student becomes familiar with the fundamental principles upon which is based sanitary production and handling of milk, and the important relation of bacteria to butter and cheese manufacture. Lectures and laboratory work are given together. A study is made of the means by which milk is contaminated in the barn and dairy room and *how* it may be prevented; normal and abnormal fermentation of milk and their relations to dairying; milk as a means of spreading human disease; the relation of fermentations to butter and cheese making; the propagation and use of pure culture and natural starters; the isolation and study of a number of common but important milk organisms, such as the acid producing bacteria; ropy milk, bitter milk and other common types; estimating number of bacteria in milk; effect of certain species on butter and cheese. (2).

4a. **Cheese Making.** Lecture and laboratory work which covers the subject of cheese making in general; composition and characteristics of common American and European cheese; the making of American, Cheddar, Gouda, Brick and some forms of soft cheese. (2).

5a. **Dairy Manufactures.** Students who have had suitable preparation may take advanced laboratory work in dairy manufactures.

6. **Dairy Bacteriology.** This will be laboratory investigation of certain problems of bacteriology in relation to Dairying, the object being chiefly to give training in methods of research in this line. The work will be adapted largely to the individual student. Graduate.

7a and 7b. **Seminar.** Special investigation and study along selected lines of dairy research and discussion of recent work. Once a week. Elective for Graduates or Seniors who have had three or more courses in this Department.

Students who have had suitable preparation may do advanced work in any line of Dairy Husbandry that they choose, including milk production, butter-making, cheese-making, pasteurization, milk for city supply, etc. Graduate.

English.

For courses in English required of Agricultural students, see page 148.

Entomology.

†Professor STEDMAN; Mr. HASEMAN (in charge); Mr. SNOW.

The instruction in Entomology is given by lectures, supplemented by laboratory and field work. The lectures cover the external and internal anatomy, transformations, life histories, habits, economy, and classification of insects; the characteristics of the orders, sub-orders, and principal families. Special emphasis is placed upon those insects of economic importance, and the best methods of combating their ravages. The laboratory work embraces the study, by means of actual specimens, of the internal and external anatomy, transformations, life histories, habits, economy, breeding, identification, or determination of genera and species, and the classification of those insects found in our fauna; and also economic work and original investigation for advanced students.

The following courses are offered:

1. **General Entomology.** For students in the College of Arts and Science only. (1). Lectures. Internal and external anatomy, transformations, life histories, habits, economy, characteristics, classification, methods of destruction, mimicry, dimorphism, analysis. (2). Laboratory work, collecting, preserving, breeding, methods, habits, life histories, work, external anatomy, identification, or determination of orders, families and genera, classification. (3).

2b. **Economic Entomology.** For Agricultural students only. Lectures and laboratory work. Anatomy, development, work, transformations, life histories, habits and ecology, with special reference to the beneficial and injurious species, methods of combating them, preparation and use of insecticides, machines for applying, determination of species. (3).

2w. **Economic Entomology.** For students of the Short Winter course. See special circular to be issued in September, 1908.

3. **Advanced Entomology.** Lectures and laboratory work. Internal anatomy, histology, physiology, embryology, breeding, life histories, transformations, habits, ecology, economy, distribution, dimorphism, mimicry, determination of species, classification. Must be preceded by course 1 or 2a. Elective.

4. **Graduate Work in Entomology.** Laboratory work. Mono-

†On leave of absence, session, 1907-08.

graphing a group (scientific); monographing a species (scientific and economic). Must be preceded by course 3.

All courses in Entomology are elective for students in other Departments. Agricultural students may elect course 3 in the Junior and Senior years, and course 4 in the Graduate years.

Horticulture.

Professor WHITTEN; Professor HOWARD; Mr. FAVOR; Mr. CHANDLER.

1a. **Plant Propagation.** Lectures and laboratory exercises. A consideration of the methods by which plants are propagated in nature, as well as under culture; seeds, seed testing and seedage, including the preparatory treatment of refractory seeds, and nursery management of seedlings; grafting, budding, making cuttings, separation, layering and nursery practice. Discussion of methods employed in the propagation of our common fruits. (3). Professor HOWARD; Mr. FAVOR; Mr. CHANDLER.

2b. **Small Fruits.** Lectures, assigned readings, and observations in the field. The planting, cultivating, havesting, marketing, spraying and general management of small fruits will be considered. (2). Professor WHITTEN; Professor HOWARD; Mr. FAVOR; Mr. CHANDLER.

3a. **Vegetable Gardening.** Lectures, readings, and practical exercises. Considerable attention will be given to garden soils and fertilizers; forcing and market gardening, as well as other cultural features. (2). Professor WHITTEN; Professor HOWARD; Mr. FAVOR; Mr. CHANDLER.

4b. **Orcharding.** Lectures, required readings, with observations and demonstrations in the orchard. The propagation, transplanting, cultivation, pruning, gathering and marketing of orchard fruits, together with spraying for fungous diseases, are the principal topics discussed. (3). Professor WHITTEN; Professor HOWARD; Mr. CHANDLER.

5b. **The Evolution of Cultivated Plants.** Lectures and assigned readings. A study of organic evolution as applied to the modification of plants—particularly those in cultivation. Plant breeding. (3). Professor WHITTEN.

6b. **Principles of Forestry.** Lectures, assigned readings and excursions. Studies of forest trees while in their winter condition. Characteristics and uses of typical woods. The forest nursery; planting and care of forests; forest mensuration; reforesting. Forest fires;

their prevention and control. The farm woods lot. Growing timber for posts, telephone poles, etc. Diseases and insects affecting forest trees. Timber preservatives. Forest geography. Distribution of species. Influence of forests on climate, stream flow, etc. (3). Excursion dates by appointment. Professor HOWARD.

7a. **General Forestry.** Lectures. A popular discussion of the meaning and scope of forestry, and the practical application of forest principles to both large and small areas. (1). Professor HOWARD.

8b. **Landscape Gardening.** Lectures, readings and out-of-door observation. Principles underlying the ornamentation of public and private grounds. (3). Professor WHITTEN; Professor HOWARD; Mr. FAVOR.

9w. **General Horticulture.** (The Short Winter Course in Agriculture.) The propagation, transplanting, cultivation, gathering, marketing and general management of fruits and vegetables. Professor WHITTEN; Professor HOWARD; Mr. FAVOR; Mr. CHANDLER.

For Undergraduates and Graduates.

10. **Advanced Pomology.** A study of the principal sspecies, types and varieties of cultivated fruits and their related forms, together with a consideration of their variations, modifications and adaptations under culture. The living plant collection and preserved specimens on the Horticultural Grounds afford material for the work. Hours by appointment. Professor WHITTEN.

11a. **Forest Economics.** Lectures and assigned readings. History of forestry. A review of the present status of forestry in the United States and other countries. Relation of forests, directly and indirectly, to the public welfare. National policy toward reforesting of waste lands. Extent and management of the national forests and forest reserves. Forest administration. Exports and imports of forest products. Statistical studies of timber prices, with influencing factors and causes. (3). Professor HOWARD.

12. **Olericulture.** Exhaustive studies of special groups, species, types and varieties of garden vegetables, together with their cultural requirements and adaptations to special purposes. Professor HOWARD.

Primarily for Graduates.

13. **Special Investigation.** This course is intended for graduates and advanced students. Special topics for investigation will be assigned. Hours by appointment. Professor WHITTEN; Professor HOWARD.

Meteorology.

*Mr. REEDER, of the U. S. W. B.

1b. This course is open to all students, but more especially to those in Botany, Geology, Medicine, Engineering and Agriculture. The course includes lectures presenting the following subjects: (1) The earth's atmosphere—its composition, temperature, pressure and circulation—dew, frost, clouds, rainfall, cyclones, thunderstorms and tornadoes; (2) Weather and climate. *Once a week.*

Rural Economics.

Assistant Professor WILDMAN (in charge); Mr. PUTNAM; Mr. GROMER.

2a. **Principles of Economics.** This course presents the foundations of economic theory in brief outline adapted to Seniors or other mature students, and is intended as a prerequisite to the more technical courses which follow. (2).

2b. **Agricultural Economics.** A study of those principles of Economic Science which are particularly concerned with Agriculture and the business relations of the farmer. In so far as possible in the time allowed, attention will be given to markets, banks, transportation, tariffs and such other institutions and conditions as affect this industry. Open to students who have taken course 1 or 2a. (2).

Veterinary Science.

Professor CONNAWAY; Dr. BACKUS; Dr. LA RUE.

Courses 1a, 2b, and 3a, are offered to meet the special requirements of students who are preparing themselves for the work of general farming, stock-raising, feeding and breeding, and dairying. The additional Elective courses are offered to meet the demands of students who expect to become teachers and investigators, and who intend to take a Veterinary degree on completion of the Agricultural course. Such students will be given advice in regard to the selection of additional courses, in the Departments of Medicine and the College of Arts and Science, which it will be advisable to pursue.

1a. **Veterinary Anatomy.** This course consists of: (a) The comparative study of the skeletons of farm animals; (b) dissection

*In the service of the United States Government.

of the horse, with a comparative study of such organs of other farm animals as show well marked variations; (c) the histology or minute structure of the various organs—by means of the microscope and prepared slides. Text: Chauveau's Comparative Anatomy. Lectures and laboratory. (3). Sophomore Agriculture. Required.

1b. **Topographic Veterinary Anatomy.** A study of the topographic anatomy of the horse, ox and pig by means of serial cross-sections of preserved cadavers, supplemented by a study of anatomical surface points on the living subject.

This course is designed to meet the needs of students who intend to specialize in Animal Husbandry along the lines of "Stock Judging" and "Meat Production." Course 1a prerequisite. Elective.

2b. **Veterinary Physiology.** The special physiology of farm animals—horses, cattle, sheep, swine and poultry. This is preceded or accompanied by a study of the essential facts and principles relating to animal physiology in general. Lectures and assigned readings, supplemented by practical exercises in the laboratory, dairy, and feeding barns. Text: Smith's Veterinary Physiology. Reference books: The standard text-books on Physiology, special monographs and journals. (3). Sophomore Agriculture. Required.

3a. **Veterinary Medicine (minor course).** (a) Lectures and recitations on the general and specific causes of disease and methods of prevention; errors in feeding and care of animals; infection, nature of same and how spread; sanitation of stables, feeding pens and pastures; preventive inoculation; tuberculin test, state and national veterinary regulations, etc. (b) Diagnosis and treatment of the common ailments of farm animals; including dosage, mode of administration and action of the simple drugs used in Veterinary Medicine. (c) Simple surgical operations: surgical emergencies, control of hemorrhage, dressing of wounds, opening and treating abscesses, care of the teeth, care of the feet, etc., etc., as well as castration, spaying and caponizing; correction of malpositions and removal of placenta in obstetrical cases. Text and reference books: Reynold's "Veterinary Studies," Mayo's "Care of Animals." Lectures, demonstrations and clinics. (3). Junior Agriculture. Required.

3b. **Veterinary Medicine.** Continuation of course 3a in the more advanced study of the non-infective diseases. Text and reference books: Friedberger and Frohner's Veterinary Pathology, Vol. 2, "Non-Infective Diseases," Law's Veterinary Medicine, Vols. 1-3. Special monographs and the Veterinary Journals. Lectures, recitations and clinics. (3). Junior elective.

4. **Contagious, Infectious and Parasitic Diseases of Farm Animals.** In this course an effort is made to present as many clinical cases as possible, in order that the student may gain a practical knowledge of the clinical features as they are encountered in field experience. Experimental inoculations supplement the clinical study. Autopsies are made and the gross and microscopic lesions studied. The specific causes (bacteria and other micro-parasites and macro-p.rasites), where known, are isolated and studied. Such ground relating to this group of diseases as has been well covered in the minor course 3a is not repeated in this course. Text and reference books: Friedberger and Froehner's Veterinary Pathology, Vol. I, "Infective Diseases;" Law's Vet. Med. Vol. 4; Ostertag and Wilcox's "Meat Inspection;" Neumann's Parasites and Parasitic Diseases; Nocard and Leclainche's "Les Maladies Microbiennes des Animaux;" Kitt's "Bakterienkunde." Special Bulletins and Veterinary Journals. Lectures, assigned reading, clinics and laboratory work. (3). Senior and Graduate elective.

5. **Veterinary Surgery and Obstetrics.** Continuation of minor course 3a in the more advanced study of Veterinary Surgery and Obstetrics. Text and reference books: Williams' Principles and Practice of Veterinary Surgery, Moellers' Operative Surgery, Pfeiffer-Williams "Surgical Operations," Fleming and Dalrymple—"Obstetrics." Lectures, surgical exercises and clinics. (3). Senior elective.

6. **Investigation.** Students who have suitable preparation will have an opportunity to assist in the Experiment Station work. Graduate.

7w. **An Elementary Course in Veterinary Science.** This course deals principally with the hygiene of farm animals, and the treatment of simple ailments is given for the benefit of the students attending the Short Winter Course in Agriculture. Three lectures and one clinic a week for eight weeks.

Zoology.

Professor LEFEVRE; Professor CURTIS; Dr. MCCLENDON.

For Undergraduates.

1. **General Zoology.** A general survey of the field of zoological science. In the laboratory the student studies the structure, reactions, and activities of a selected series of animal forms. Although the course is primarily designed to lay the foundation of the general

principles of Zoology, at the same time the student is prepared for subsequent work in Animal Husbandry, especially in Animal Breeding. (3). Professor CURTIS.

With General Zoology as a foundation, the student may then elect courses in Zoology as announced in the College of Arts and Science, page 191.

For Graduates.

The graduate work in Zoology for students in the College of Agriculture is the same as in the College of Arts and Science.

2. COURSE IN HOME ECONOMICS.

There is an increasing appreciation of the fact that much that relates to the Home may be studied scientifically not only for the utilitarian value of the knowledge thus gained, but as a means to a liberal education.

The aim, in planning this course, has been to so correlate work in art, and in the physical, biological, and social sciences, with studies in Home Economics, as to make clear the fundamental principles and make interesting both the common place details of Home life and the abstract generalizations of science.

The opportunity for free election makes it possible for students to vary the course according to their special interest.

Required Work:

All students who are candidates for a degree in Home Economics must satisfactorily complete 120 hours of work. Of this work six (6) hours in English, and thirty (30) hours in Home Economics, together with such courses as are preparatory to those courses selected from Home Economics, must be taken.

Degree:

The degree of Bachelor of Science in Home Economics is conferred upon all students who successfully complete this course.

SUGGESTED COURSE OF INSTRUCTION.

The following course may be modified to meet different interests, provided that the above requirements are met:

Department.	Course.	Semester. I.	Semester. II.
FRESHMAN YEAR.			
English	1. English Composition and Rhetoric	3	3
Freehand Drawing	2. Representation	3	3
*Physics or Chemistry		3	3
Botany	1a. General Botany	3	
	4b. Bacteriology		3
Home Economics	1. General Home Economics	3	3
Home Economics	8. Sewing	2	2
SOPHOMORE YEAR.			
History	1. European History	3	3
Freehand Drawing	3. Design	3	3
Chemistry† or Zoology		3	3
Horticulture	1a. Plant Propagation	3	—
Dairy	1b. Elements of Dairying	—	3
Home Economics	2a. House Sanitation	3	—
	2b. House Decoration	—	2
JUNIOR YEAR.			
Sociology	1. Elementary Sociology	3	3
Experimental Psychology	1b. Introduction to Psychology	—	3
Chemistry	5a. Organic Chemistry	3	—
Physiology	1. General Physiology	3	3
Home Economics	3. Textiles and Dress	2	2
Home Economics	9. Dressmaking	1	1
Home Economics	4. Foods, General Course	3	3
SENIOR YEAR.			
Economics	1. General Economics	3	3
Home Economics	5. Foods, Advanced Course	3	3
Home Economics	6. Home Administration	3	3
Electives		5	4

*If not studied in an approved high school.

†If not taken in the Freshman year.

Home Economics.

Assistant Professor DAY (in charge); Miss STANLEY.

For Undergraduates.

1. **General Home Economics.** An introductory course planned to give a general survey of the entire field of Home Economics. It includes a brief study of the evolution of the Home from primitive to modern conditions, and an elementary study of food, shelter, dress, family and home administration. Two class and one laboratory period. (3).

2a. **House Sanitation.** A study of the location, surroundings, construction, heating, ventilation, water supply, drainage, and care of the house. It includes the making of house plans. It must be preceded by course 1, and general courses in Physics and Bacteriology. Two class and one laboratory period. (3).

2b. **House Decoration.** A study of the furnishings of the house from the standpoint of health, cost and beauty. It is closely correlated with course 3 in Freehand Drawing, in which the decorations are designed. It should be preceded by courses 1 and 2a, and accompanied by Freehand Drawing 3. One class and one laboratory period. (2).

3. **Textiles and Dress.** A study of textile fibers and fabrics; principles involved in laundry work and other cleaning, and in dyeing; textile industries from the standpoint of the consumer; adaptation of fabrics to various purposes; and the application of principles of design to dress. One class and one laboratory period. (2).

4. **Foods: General Course.** A study of the composition of Foods, their nutritive and economic values, the changes involved in their preparation for the table, and dietary standards. It must be preceded by course 1, and work in Chemistry, Physics, and some Biological science. At least one of these sciences should have been studied in the University. One class and two laboratory. (3).

8. **Sewing.** Laboratory practice illustrating principles of hand and machine sewing, including a study of the fundamental stitches and the drafting and making of underwear and a simple dress. (2).

9. **Dressmaking.** Laboratory practice illustrating principles of drafting and dressmaking. It should be accompanied by course 3. One laboratory period a week. (Not given in 1908-09). (1).

For Undergraduates and Graduates.

5. **Foods: Advanced Course.** A critical study of current theories and practice in food preparation and dietetics. In the Second semester, special problems will be assigned. It should be preceded by courses 1 and 4. Chemistry 2 and 5a or 5b, Botany 1a, and 4b, Physiology 1. One class room and two laboratory periods a week. (3).

6. **Home Administration.** A critical study of standards of living and the means available for attaining them. In the Second semester special problems will be assigned. This course aims to bring together again into one whole the subject matter of Home Economics, introduced as a whole in course 1, and studied in detail in its various phases in courses 2, 3, 4, and 5. It should be preceded by at least 12 hours work in Home Economics, Sociology 1, and Economics 1. (3).

For Graduates.

7. **Research.** Original investigation of unsolved problems of the Home. Open to those with sufficient preparation. This preparation includes a reading knowledge of French and German.

B. THE AGRICULTURAL EXPERIMENT STATION.

BOARD OF CONTROL.

The Curators of the University of Missouri.

ADVISORY COUNCIL.

The Missouri State Board of Agriculture.

OFFICERS OF THE STATION.

R. H. JESSE, LL. D.....President of the University
A. R. HILL, Ph. D., LL. D.....President-elect of the University
HENRY J. WATERS, B. S. A.....Director
PAUL SCHWEITZER, Ph. D., LL. D.....Chemist
J. W. CONNAWAY, D. V. S., M. D.....Veterinarian
J. C. WHITTEN, Ph. D.....Horticulturist
†J. M. STEDMAN, B. S.....Entomologist
F. B. MUMFORD, M. S.....Animal Husbandry
C. H. ECKLES, M. S.....Dairy Husbandry
M. F. MILLER, M. S. A.....Agronomy
C. F. MARBUT, B. S., A. M.....Soil Survey
P. F. TROWBRIDGE, Ph. D.....Chemist
W. L. HOWARD, Ph. D.....Professor of Horticulture
*R. H. SHAW, B. S.....Assistant Professor of Dairy Husbandry
G. M. REED, Ph. D.....Assistant Professor of Botany
*GEORGE REEDER.....Section Director Misssouri Weather Service
E. H. FAVOR, B. A.....Assistant in Horticulture
H. S. WAYMAN, B. S.....Assistant in Dairying
LEONARD HASEMAN, A. B.....Assistant in Entomology
R. C. DONEGHUE, B. S.....Assistant in Soil Survey
W. H. CHANDLER, M. S.....Assistant in Horticulture
E. A. TROWBRIDGE, B. S.....Assistant in Animal Husbandry
*F. G. KING, B. S.....Assistant in Animal Husbandry
JOHN M. EVVARD, B. S.....Assistant to the Director

†On leave of absence, session, 1907-08.
*In the service of the U. S. Government.

C. A. WILLSON, B. S.....Assistant in Animal Husbandry
A. E. PERKINS, B. S.....Assistant in Dairying
H. D. HUGHES, B. S.....Assistant in Agronomy
L. S. BACKUS, D. V. S.....Assistant in Veterinary Medicine
L. G. RINKLE, B. S.....Assistant in Dairying
C. R. MOULTON, B. S.....Assistant in Chemistry
NORMAN HENDRICKSON, A. B., Assistant in Agriculture Chemistry
L. F. SHACKELL.....Assistant in Chemistry
L. D. HAIGH, A. M.....Assistant in Chemistry
E. N. LA RUE, D. V. S.....Assistant in Veterinary Medicine
C. W. RINE, B. S. Agr.....Assistant in Animal Husbandry
FRANK AGRELIUS, A. M.....Assistant in Botany
ARTHUR RHYS .....Herdsman
JOHN SCHNABEL .....Gardener
J. G. BABB, M. A.....Secretary
R. B. PRICE, B. S.....Treasurer
S. E. KENNEDY .....Clerk

This station was established by the act of Congress of 1887, and by the acts of the General Assembly of Missouri accepting its provision. By an order of the Board of Curators of the University it was made a division of the College of Agriculture.

The special function of the Experiment Station is to conduct original research in the various branches of Agriculture. At this time investigations are in progress relating to the maintenance of soil fertility, the renovation of worn out soil, the most efficacious rotation of crops, the adaptability of new plants to Missouri's soil and climate, the most economical methods of beef and pork production; dairying and dairy feeding, animal diseases, their origin and prevention or cure; animal and plant breeding; the propagation, selection, breeding and improvement of fruits and vegetables; tests of varieties of orchard and small fruits; insect pests, fungous diseases, etc.

The Station uses such parts of the College Farm, Horticultural Grounds and the equipments of the College and University as are needed for its investigations. The results of these investigations are published in the form of Bulletins and Annual Reports, which are distributed free to all who express a desire to have them.

The Station is provided with an outfit of meteorological instruments, and daily observations are made by an officer of the United States Weather Bureau.

THE DEPARTMENT OF LAW.

OFFICERS OF ADMINISTRATION AND INSTRUCTION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ALBERT ROSS HILL, A. B., A. M., LL. D.,
President-elect of the University.

JOHN DAVISON LAWSON, LL. D.,
Professor of Contract and International Law, and Dean of the Faculty.

EDWARD WILCOX HINTON, LL. B.,
Professor of Pleading, Practice and Evidence.

‡VASCO HAROLD ROBERTS, J. U. D.,
Professor of Real Property and Corporations.

HENRY CLINTON HILL, A. B., LL. B.,
Professor of Real Property and Corporations.

LELAND EMERSON BRISTOL, A. B., LL. B.,
Assistant Professor of Law.

PERCY BORDWELL, B. L., LL. B.,
Assistant Professor of Law.

ELMER B. ADAMS, LL. D. (United States Circuit Judge), St. Louis,
Non-resident Lecturer on Wills and Administration.

PAUL BAKEWELL, LL. D., St. Louis,
Non-resident Lecturer on Patents and Trade-marks.

Non-resident Lecturer on Bankruptcy.

J. V. C. KARNES, A. M., LL. D., Kansas City,
Non-resident Lecturer on Legal Ethics.

ANDREW W. McALESTER, M. D., LL. D., Columbia,
Resident Lecturer on Medical Jurisprudence.

ROBERT FRANKLIN WALKER, M. S., St. Louis,
Non-resident Lecturer on Public Service Corporations.

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‡Resigned.

GEORGE ROBERTSON, Mexico,
Non-resident Lecturer on Municipal Corporations.

FRANK L. SCHOFIELD, A. M. (U. S. Master in Chancery), Hannibal,
Non-resident Lecturer on Federal Jurisdiction and Procedure.

SELDEN P. SPENCER, LL. B., Ph. D. (Ex-Judge Circuit Court), St. Louis,
Non-resident Lecturer on Private Corporations.

EDWARD J. WHITE, LL. B., Aurora,
Non-resident Lecturer on Mining Law.

WILLIAM M. WILLIAMS (Ex-Judge Supreme Court), Boonville,
Non-resident Lecturer on Constitutional Law.

THREE YEAR COURSE.

The course of instruction leading to the degree of Bachelor of Laws (LL. B.) extends through three years.

Methods of Admission:

Admission may be either by entrance examinations, certificates of graduation from Accredited Schools, or certificates of graduation from colleges and universities composing the Missouri College Union, or from other reputable colleges, universities, or normal schools. Acceptance of such certificates lies wholly within the power of the Committee on Entrance. See pages 72 and 82 of this catalogue.

Admission to First Year Class:

Students entering the First Year Class, after having satisfied the requirements as above, are not required to pass any examination in Law. A member of the First Year Class will not be permitted to register for any regular course of the Junior or Senior years except under exceptional circumstances, and then only by permission of the Dean.

Admission to Advanced Standing:

To be admitted to advanced standing, in addition to complying with the requirements for admission to the First Year class, students must present satisfactory evidence that they have pursued successfully the study of the subjects for which they wish credit in an approved law school, and on examination prove themselves proficient in those subjects. Certificates from law schools approved by the Faculty, showing that the applicant has in said school accomplished with passing grades the work for which he wishes credit, may be ac-

cepted in lieu of examination. Certificates of admission to the bar will not be accepted for admission to advanced standing. No law school conferring a degree in law for less than three school years of systematic study of the Law will be considered an approved school within the meaning of the above requirement. By special vote of the Faculty, in exceptional cases a study of law in a school other than an approved law school or in the office of an attorney may be offered for admission to advanced standing, in place of study in an approved law school. In such cases the applicant will be required to pass satisfactory examinations in the subjects for which he wishes credit. Examinations for advanced standing will not be given to persons not fulfilling the foregoing requirements.

Where study in a law office is offered for admission to advanced standing, an affidavit by the attorney under whom the study was carried on must be presented.

No one will be admitted to the Junior class who is conditioned in more than one full course or two half-year courses of the First Year. A member of the Junior class will not be permitted to register for any regular course of the Senior Year except under exceptional circumstances and then only by permission of the Dean .

Students entering the Senior class must do so at the beginning of the year. No one will be admitted to advanced standing beyond the Junior year except by special vote of the Faculty. No student will be admitted to the Senior class who is conditioned in any subject of the First year or in more than one full course or two half-year courses of the Junior year.

Special Students:

Persons who have read law for some time before making application for admission to the Department of Law, or who desire to carry out special lines of work and who have not had the preliminary preparation required for admission as regular students may be admitted as Special Students, for the purpose of pursuing courses for which their preparation, such as it is, fits them.

Such students must satisfy the Dean that they can pursue the work selected with profit to themselves, and are required to pass satisfactory examinations in at least seventy-five per cent of the work for which they are registered as a condition of continuing in the Department.

To be admitted to the Department to pursue advanced work as Special Students, applicants will be required to pass examinations in all courses naturally preceding such work in point of time. In all

such cases, however, the applicant must comply with the requirements as to certificates of study prescribed for persons seeking advanced standing as regular students. Certificates from approved law schools, showing that applicants have pursued such courses and received a passing grade therein, *may* be accepted in lieu of examination.

Every applicant for admission as a Special Student must either present the three units in English required for admission as a regular student or pass examination in the same.

By vote of the Faculty, a Special Student who has been a member of the Department for at least two years, and during that time has successfully completed the work of the Junior and Senior years with an average grade of B, may be recommended to the Board of Curators for the degree of LL. B.

COURSES OF STUDY.

The aim of the Law School is to afford the student a thorough training in the fundamental principles of American and English Law, both substantive and remedial. In view of the fact that more than one-quarter of our students come from other States, it is the aim of the Faculty to make the work broad enough to prepare the student for practice in any State.

During the year 1908-09 the following courses will be offered in the Department of Law:

First Year.

Contracts. Four hours a week; *first semester.*

Criminal Law. Three hours a week; *first semester.*

Real Property I. Two hours a week, *first semester*; three hours a week, *second semester,*

Torts. Three hours a week, *first semester,* and two hours, *second semester.*

Bailments and Carriers. Two hours a week; *second semester.*

Personal Property. Two hours a week; *second semester.*

Agency. Two hours a week; *second semester.*

Equity I. Three hours a week; *second semester.*

Junior Year.

Common Law Pleading. Three hours a week; *first semester.*

Code Pleading. Three hours a week; *second semester.*

Real Property II. Three hours a week; *first and second semesters.*

Equity II. Three hours a week; *first and second semesters.*

Bills and Notes. Two hours a week; *first and second semesters.*

Sales. One hour a week; *first semester.*

Quasi Contracts. One hour a week; *first semester.*

Suretyship. Two hours a week; *second semester.*

Elective. Two hours a week; *first and second semesters.*

Senior Year.

Evidence. Three hours a week, *first semester*; two hours a week, *second semester.*

Constitutional Law. Two hours a week; *first and second semestetr.*

Extraordinary Legal Remedies. Two hours a week; *first semester.*

Private Corporations. Two hours a week, *first semester*; three hours a week, *second semester.*

Practice Court. Three hours a week; *first and second semesters.* One hour a week credit.

Municipal Corporations. Two hours a week; *second semester.*

Partnership. Three hours a week; *second semester.*

Wills and Administration. Three hours a week; *first semester.*

Elective Courses.

Elective. Two hours a week; *first and second semesters.*

Equity Pleading. Two hours a week; *second semester.*

Public International Law. One hour a week; *second semester.*

Mortgages. Two hours a week; *second semester.*

Conflicts of Laws. Two hours a week; *first semester.*

Jurisdiction of Federal Courts. One hour a week; *second semester.*

Equity III. Two hours a week; *first semester.*

The Practice Court:

The Practice Court has become in the past three years a distinctive feature of the Law Course. Its object and scope are set out in the special annual bulletin of the Department of Law.

REQUIREMENTS FOR DEGREE.

The degree of Bachelor of Laws (LL. B.) is conferred upon all students who have satisfactorily completed the prescribed work of the course. This course requires three years for its completion, and no student is allowed to graduate except after three years of actual residence unless in case of admission to advanced standing. In no case will any student be recommended for graduation with any class who has not been regularly enrolled as a member of that class for at least one college year prior to such graduation .

ADMISSION TO THE BAR.

Admission to the Bar of Missouri is vested in the Supreme Court of the State, and all candidates are required to pass an examination before a Board of Law Examiners appointed by the court. The subjects upon which the examination is based are those included in the curriculum of this Law School.

Graduates of this Law School who pass the Board of Law Examiners are admitted to practice in the United States District and Circuits Courts in this state on motion.

Certificate of Attendance. Each student who has been in regular attendance in this Department, whether entitled to a degree or not, may, on application to the Faculty, receive an official certificate of attendance, stating the time of his attendance and, if desired, the degree of his attainments.

HONORS AND PRIZES.

The degree of Bachelor of Laws, *cum laude,* is conferred upon graduates who have shown special excellence in their work.

The honor of valedictorian of the graduating class is awarded to the graduate who has attained the highest grades during his course.

Rollins Scholarship. This scholarship, amounting annually to the sum of fifty dollars, is provided for in the endowment of Hon. James S. Rollins, and is awarded annually by the Law Faculty to a student of the Junior Class, according to the terms of the donation as set forth in this Catalogue, page 93.

Karnes Prize. Hon. J. V. C. Karnes, of Kansas City, Missouri, has provided an annual prize of fifty dollars, to be awarded each year by the Law Faculty to a student of the Senior or Junior classes who

shall offer the best thesis upon some subject within the domain of Legal Ethics.

Edward Thompson Company Prize. The Edward Thompson Company, of Northport, Long Island, has for a number of years provided the Department annually with a set of its "American and English Encyclopedia of Law, second Edition." These 32 Volumes, valued at $240, are awarded to the candidate for the degree of LL. B., who presents the best thesis upon a subject assigned by the Faculty.

American Law Book Company Prize. The American Law Book Company, of New York City, has provided the Department with a set up to date of its "Cyclopedia of Law and Procedure," now 28 volumes, which is awarded to that member of the Senior class who, in the judgment of the Law Faculty, has made the best all-round progress during his Senior year. Two years of residence as a student in the Department is required of candidates for this prize.

COMBINED COURSE IN ARTS AND LAW.

Seniors in the College of Arts and Science may elect, as part of the requirements for graduation, courses from the First year's work in the Department of Law to an amount not exceeding twenty-two hours. Under special circumstances this privilege may be extended to Juniors with the consent of the Deans of the College of Arts and Science and the Department of Law. A combined course of this character will enable a student to obtain the degrees of A. B., and LL. B., in six years.

The following courses in the College of Arts and Science may be selected for the degree of Bachelor of Laws:

In Political Science and Public Law, course 4, Comparative Constitutional Law; course 5, Comparative Administrative Law; course 7b, The Law of Taxation; course 8a, The Government of Missouri; in History, course 18, English Constitutional History; course 19a, American Colonial Institutions.

EQUIPMENT.

The Law School has the exclusive occupancy of a building specially erected for the Department. The building is practically fireproof, and contains the usual library, lecture, and office rooms.

The Law library contains about eleven thousand volumes, conveniently housed in the Law building and open freely to all students

of the Department. The General Library of the University (55,000 volumes) and the Missouri State Historical Society Library (23,000 entries), are also open to law students.

FEES AND EXPENSES.

No tuition fee is charged. An annual library fee of $10 is required of all students, both regular and special, admitted to the Department of Law. Appointees to Cadetships and students of the College of Arts and Science receiving instruction in the Department of Law are not exempt from this library fee. The cost of text-books varies, averaging about $30 a year.

THE DEPARTMENT OF LAW—SPECIAL ANNUAL BULLETIN.

A Special Annual Bulletin of the Department of Law is issued in April of each year. This contains a detailed announcement of all courses, entrance conditions, rules and regulations of the Law Department, and should be consulted by all persons wishing exact information concerning the Department It will be mailed on request to the Dean of the Department of Law, Columbia, Missouri.

DEPARTMENT OF MEDICINE.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,
President-elect of the University.

ANDREW WALKER McALESTER, A. M., M. D., LL. D.,
Professor of Surgery, and Dean of the Faculty.

CLARENCE MARTIN JACKSON, B. S., M. S., M. D.,
Professor of Anatomy and Histology, and Junior Dean of the Faculty.

WOODSON MOSS, M. D., LL. D.,
Professor of the Practice of Medicine and Therapeutics.

JOHN WALDO CONNAWAY, D. V. S., M. D.,
Professor of Comparative Medicine.

GEORGE LEFEVRE, A. B., Ph. D.,
Professor of Zoology.

CHARLES WILSON GREENE, A. B., M. A., Ph. D.,
Professor of Physiology and Pharmacology.

WALTER McNAB MILLER, B. S., M. D.,
Professor of Pathology and Bacteriology.

GUY L. NOYES, M. D.,
Professor of Diseases of the Eye and Ear, and Superintendent of Parker Memorial Hospital.

MAX W. MYER, A. B., M. D.,
Professor of Gynecology and Obstetrics.

SIDNEY CALVERT, B. Sc., A. M.,
Professor of Organic Chemistry.

FRANK GOSNEY NIFONG, M. D.,
Clinical Professor of Surgery.

WILLIAM JEPTHA CALVERT, A. B., M. D.,
Assistant Professor of Internal Medicine.

ELEXIOUS THOMPSON BELL, B. S., M. D.,
Assistant Professor of Anatomy.

EDWIN HENRY SCHORER, B. S., M. D.,
Assistant Professor of Pathology and Bacteriology.

CAROLINE McGILL, A. B., A. M.,
Instructor in Anatomy.

ROBERT BROWNING GIBSON, Ph. B., Ph. D.,
Instructor in Physiological Chemistry.

WILLIAM HENRY SCHULTZ, Ph. B., Ph. D.,
Instructor in Physiology.

*GEORGE REEDER, of the U. S. W. B.,
Lecturer on Climatology.

EDNA D. DAY, B. S., M. S., Ph. D.,
Lecturer on Dietetics.

†———— ————
Lecturer on Pediatrics.

†———— ————
Lecturer on Nervous Diseases.

†———— ————
Lecturer on Dermatology and Electro-therapeutics.

GEORGE WASHINGTON TANNREUTHER, A. B., A. M.,
Assistant in Zoology.

HENRY WOOD BERGER, A. B.,
Research Assistant in Physiology.

FRANKLIN PARADISE JOHNSON,
Student Assistant in Anatomy.

OLIVER WENDELL HOLMES MITCHELL,
Student Assistant in Pathology.

WEBSTER NEWTON JONES,
Student Assistant in Chemistry.

ROBERT MILTON SMITH,
Student Assistant in Chemistry.

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*In service of U. S. Government.
†To be appointed.

THE MEDICAL LABORATORY BUILDING.

This handsome and commodious building, located on the University campus at Columbia, is splendidly equipped to meet the needs of modern laboratory instruction and research. This building brings together the lecture rooms, laboratories and offices for Anatomy, Histology, Physiology, Pathology, Bacteriology, Hygiene, Pharmacology, Physiological Chemistry and Internal Medicine. In this building is located the Medical Library. This contains about 2500 volumes specially devoted to Medical Science. About fifty of the principal medical journals of the world are received regularly, and complete sets of most of them have been purchased.

Animal rooms, aquaria rooms, mechanics' shops, and special research rooms are provided for. A cold storage plant is devoted to the needs of anatomical and pathological preparations.

Plans and specifications have been drawn for an animal house, to be erected near the Medical Laboratory building. An appropriation of $3,000.00 by the last General Assembly is available for this purpose.

THE PARKER MEMORIAL HOSPITAL.

Staff.

ANDREW WALKER McALESTER, M. D.....Surgeon
FRANK G. NIFONG, M. D.....Surgeon
WOODSON MOSS, M. D.....Physician
WILLIAM J. CALVERT, M. D.....Physician
GUY L. NOYES, M D.....Ophthalmologist and Otologist
MAX W. MYER, M. D.....Gynecologist and Obstetrician
AUGUST W. KAMPSCHMIDT, M. D.....Anaesthetist
WALTER McNAB MILLER, M. D.....Pathologist
E. H. SCHORER, M. D.....Bacteriologist

Officers.

GUY L. NOYES, M. D.....Superintendent
HARRY S. MARSH .....Intern
JOSEPH S. SUMMERS .....Intern
JOSEPHINE M. SHIELDS .....
Principal of the Training School for Nurses, and Head Nurse

By the gift of Wm. L. Parker, the Department of Medicine is supplied with an excellent Hospital, which has now been in operation for six years. In the words of the donor, it is "for the benefit of the Medical Department." This building is a handsome, modern structure, conveniently located on high ground at the west side of the Campus. The building is heated by steam, lighted by gas and electricity, and well ventilated. The Hospital has beds and accommodations for about 45 patients. It is supplied with a modern equipment in the Medical and Surgical appliances, which contribute to the comfort and welfare of the patients.

The Parker Memorial Hospital is a State Hospital, owned and controlled by the University, and is open to the sick of Missouri for the treatment of accidents, of acute and subacute diseases, and of chronic curable diseases. Cases of contagious diseases are not admitted.

The primary purpose of the Hospital is to furnish clinical instruction to the students of the Department of Medicine, in order that by the observation and study of disease they may be fitted to practice Medicine intelligently. The patients serve to illustrate the nature of disease, its course, and its treatment. In the use of patients in this way, nothing is done to offend their sensibilities, and their interest and welfare are constantly and carefully regarded by those in charge of the Hospital.

Patients are admitted to the Hospital at any hour of the day or night. Patients living outside of Columbia should make application, preferably through some physician, sending a statement of the nature of their disease. All the patients entering the Hospital should come under the control of the Hospital Staff. The family physician will be admitted to the Hospital to consult with the Hospital Staff. All patients must pay the charges provided for in the rules, which are as follows:

Rates. The general wards, $7.00 a week; single rooms, $15.00 a week. These charges include board and ordinary nursing and medicines. Operative cases are subject to extra charge for surgical dressings, etc.

Operative cases receive special nursing for twenty-four hours after operation, or longer if deemed necessary. If further special nursing is desired by the patient, it may be had at the rate of $2.00 a day.

No fees for medical or surgical attendance are charged clinical patients. All patients must deposit at the time of admission sufficient money to cover their expenses for the time they will probably have

to remain in the Hospital. Any unused balance of this deposit will be refunded at the time the patient is discharged.

Private Cases. A limited number of private cases are received. The charges are $15 a week and upwards for ordinary medicines, nursing, and board. Private cases are required to pay a fee to the physician or surgeon in attendance.

Free Beds. A limited number of free beds are thrown open to patients in the Parker Memorial Hospital.

THE BUSCH CLINICAL AMPHITHEATRE.

A clinical Amphitheatre adjoining the Hospital has been provided by the gift of Adolphus Busch, of St. Louis. It has a seating capacity of about one hundred, is supplied with accessory rooms for sterilizing, anaesthetizing, etc., and has a number of special rooms for the work in dispensary clinics.

The interior of the Amphitheatre has recently been equipped with the medical and surgical accessories of a modern clinic.

An out-patient clinic is now established in Eye, Ear, Nose, and Throat; Internal Medicine; Surgery; and Obstetrics and Gynecology. Students have the opportunity for observing and treating patients in these clinics. The classes are formed into small sections for the purpose, and work always under the responsible direction and criticism of the Instructor in charge.

THE TRAINING SCHOOL FOR NURSES.

The University maintains a Training School for Nurses in connection with the Department of Medicine. A three-year course of theoretical and practical instruction is offered, and on the completion of the course the candidate is awarded a Certificate of Graduation.

Being connected with the University and having the facilities of our scientific laboratories and of the Parker Memorial Hospital gives to those in training superior advantages, and produces nurses thoroughly competent in the theory and practice of nursing in all its details.

SCHOLARSHIP.

The Rollins Scholarship in the Department of Medicine is a prize of fifty dollars, which is awarded to that member of the Junior (Third year) class who has made the best record during the course. See page 93.

FEES AND EXPENSES.

An annual library fee of ten dollars is, at present, required of all students, both regular and special, admitted to the Department of Medicine. In addition, laboratory fees are charged, which amount to about $45 in the First year, about $40 in the Second year, and about $25 in the Third year. Text-books and stationery cost from $25 to $50 a year. For cost of board and lodging, etc., see pages 89, 96, 104.

REQUIREMENTS FOR ADMISSION.

The Department of Medicine is open alike to men and women.

Admission to the First Year Class:

For detailed statement see pages 71-81 of this catalogue.

Advanced Standing:

Every applicant for advanced standing is required to present credentials from an accredited college showing satisfactory completion of courses equivalent to those for which he seeks credit. Moreover, the usual entrance requirements to the First year class must be satisfied, and evidence of a good moral character must be presented to the Dean of the Department of Medicine.

Special Students:

Students may be admitted to the Department of Medicine without passing the regular examinations required for entrance, under the following conditions: (1) They must be at least 21 years of age; (2) They must show good reasons for not taking a regular course; (3) They must pass such examinations or other tests as shall demonstrate fitness to pursue profitably the subjects selected by them; (4) They will be allowed to take work in not more than two subjects, with such kindred work as the Head Professors may approve. Such students are expected to do specially good work in the subjects which they choose. If at any period of the session the work becomes unsatisfactory in one or both of the major subjects, their connection with the University shall be severed by the Dean of the Department.

COURSE OF INSTRUCTION AND SCHEDULE OF HOURS.

Subject.	Character of Course.	Semester Credits.		Total Hours.	
		I.	II.	Lecture.	Laboratory or Clinics.
	FIRST YEAR.				
Osteology	Recitations, M. W. F., 8-9.	3		48	
Neurology	Lecture and 5 hrs. laboratory, M. W. F., 8-10		3	16	80
Dissection	Laboratory, M. W. F., 2-4:30	3	3		240
Normal Histology	Lecture, M., 10-11; Laboratory, T. Th., 8-10, 11-1	4	4	32	240
Organic Chemistry	Lectures, F., 10-11; Laboratory, T. Th., 2-4:30	3	3	64	80
Embryology	Lecture, M., 11-12; Laboratory, W., 10-1, F.; 11-1		3	16	80
Bacteriology	Laboratory, M., 11-1, W., 9-12, F., 11-1	3			120
	Total	16	16	176	840
	SECOND YEAR.				
Advanced Dissection	Laboratory, M. W. F., 2-4:30	3			120
Topographic Anatomy	Laboratory, M. W. F., 2-4:30		3		120
Physiology and Physiological Chemistry	Lectures, M. T. W. Th. F., 8-9; Laboratory, M. T. W. Th. F., 9-12	10		80	200
Pharmacology	Lectures, T. Th., 8-9; Laboratory, T. Th., 2-4:30		4	32	80
General Pathology	Lectures, M. W. F., 12-1; Laboratory, T., 2-4:30	4		48	40
Special Pathology	Lectures, M. T. W. Th., 9-10; Laboratory, M. T. W. Th. F., 10-12		8	64	160
Hygiene	Lectures, M. W. F., 12-1		3	48	
	Total	17	18	272	720

COURSE OF INSTRUCTION—Continued.

Subject.	Character of Course.	Semester Credits.		Total Hours.	
		I.	II.	Lecture.	Laboratory or Clinics.
	THIRD YEAR.				
Practice of Medicine.....	3 lectures, 6 hrs. clinics a week.....	4	4	96	192
Therapeutics....	2 lectures a week.....	2	2	64	.....
Physical Diagnosis and Clinical Pathology.....	7½ hrs. laboratory a week..	3	3	.....	240
Surgery (inc. Principles of Surgery, Minor Surgery and Operative Surgery on Cadaver).....	3 lectures, 6 hrs. clinics or laboratory a week.....	4	4	96	192
Genito-Urinary Diseases.....	1 lecture a week, with additional clinics.....	1	1	32	*
Obstetrics.....	3 lectures a week, with additional clinics.....	.....	3	48	*
Nervous and Mental Diseases....	1 lecture a week, with additional clinics.....	1	1	36	*
Pediatrics.....	1 lecture a week, with additional clinics.....	1	1	32	*
Dermatology and Electrotherapeutics.....	1 lecture a week, with additional clinics.....	1	1	32	*
Dietetics.....	3 hrs. lecture and laboratory demonstrations....	3	.....	48	.....
	Total.....	20	20	484	624*

*Plus additional clinics variable in amount.

COURSE OF INSTRUCTION—Continued.

Subject.	Character of Course.	Semester Credits.		Total Hours.	
		I.	II.	Lecture.	Laboratory or Clinics.
	FOURTH YEAR.				
Practice of Medicine (including Clinical Microscopy)	3 lectures, 6 hrs. clinics a week	4	4	96	192
Surgery	3 lectures, 6 hrs. clinics a week	4	4	96	192
Obstetrics	3 lectures a week, with additional clinics	3	.....	48	*
Gynecology	2 lectures, 3 hrs. clinics a week	3	3	64	96
Nervous Diseases.	1 lecture a week, with additional clinics	1	1	32	*
Pediatrics	1 lecture a week, with additional clinics	1	1	32	*
Dermatology and Electrotherapeutics	1 lecture a week, with additional clinics	1	1	32	*
Eye, Ear, Nose and Throat	2 lectures, 5½ hrs. clinics a week	4	4	64	176
Climatology	1 lecture a week	.....	1	16	.....
Medical Jurisprudence	1 lecture a week	.....	1	16	.....
	Total	21	20	496	656
	Total four years	74	74	1428	2840

*Plus additional clinics variable in amount.

COURSES IN MEDICINE AND IN ARTS AND SCIENCE.

It is the policy of the Department of Medicine to encourage in every way possible the gaining of a liberal education as a sound preparation for the professional study of Medicine.

Students of Medicine are strongly urged to take a general scientific course in conjunction with their work in Medicine. The student in the Department of Medicine may, by a proper choice of electives in the College of Arts and Science, do his required work in Medicine, and at the same time meet the requirements for the degree of Bachelor of Arts (see course below). This, it is true, prolongs the course to at least five years, but the greater power and broader training acquired makes a better and more successful physician. Such students are registered in both the Department of Medicine and in the College of Arts and Science, and must fill the requirements of both. Candidates for both the A. B. and M. D. degrees are recommended to elect subjects required or which lead up to subjects required in Medicine, in approximately the order suggested by the following tabulated statement. With the exception of Physical Training or Military Science, the work outlined for the First Year is identical with the college work required for admission to the regular course in Medicine.

The entrance requirement for the combined course outlined below is that specified for the College of Arts and Science, i. e., a high school course equivalent to fifteen units. A student who follows this combined course will, at the end of four years, have completed the requirements for the A. B. degree (provided that six hours of the electives be chosen from work "for undergraduates and graduates" in the Biological Division). He will also have completed the first two years of the course in Medicine, and will require only two years more for the M. D. degree. All students who contemplate taking this course should consult the Committee on Combined Course (at present Professor Jackson).

A COURSE LEADING TO THE DEGREES OF A. B. AND M. D. RECOMMENDED BY THE MEDICAL FACULTY.

First Year.	First Semester Hours Credit.	Second Semester Hours Credit.
English	3	3
General Zoology	3	3
Chemistry, Inorganic	4	4
General Physics	3	3
German	3	3
Physical Training or Military Science	1	1
	17	17
Second Year.		
Chemistry, Organic	3	3
History	3	3
Ancient Language	3	3
Psychology	3	3
Physical Training or Military Science	1	1
Elective	4	4
	17	17
Third Year.		
Osteology	3	0
Neurology	0	3
Practical Anatomy	3	3
Normal Histology	4	4
Embryology (Zoology 4b)	0	3
Bacteriology	3	0
Elective	4	4
	17	17
Fourth Year.		
Physiology and Physiological Chemistry	10	0
Pharmacology	0	4
Pathology, General and Special	4	8
Hygiene	0	3
Advanced Dissection	3	0
Topographic Anatomy	0	3
	17	18

FIFTH YEAR.

Same as the Third Year of Medicine in the Four Years' course.

SIXTH YEAR.

Same as the Fourth Year of Medicine in the Four Years' course.

With the consent of the Dean, Medical students may take accessory work offered in other Departments of the University.

COURSES IN DETAIL.

(Courses designated by a number with the letter a attached, thus: 4a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. The Arabic numerals in parenthesis indicate the number of hours credit a week. For schedule, see page 274.)

Anatomy and Histology.

Professor JACKSON; Assistant Professor BELL; Miss MCGILL.

2a. **Osteology.** Recitations and Demonstrations. A complete disarticulated human skeleton is issued to every two students for use during this course. Fee for use of skeleton, $2; deposit of $10 required. *First Year.* (3).

3. **Normal Histology.** A study of the microscopic anatomy of the body. Each student prepares, stains and mounts permanently about 100 specimens for study. Laboratory fee, $3.50 each semester. One lecture and three laboratory periods a week. *First Year.*

4. **Dissection.** The upper and lower extremities are dissected in the *first semester;* the thorax and abdomen in the *second.* Laboratory fee, $4.50 each semester. Three laboratory periods a week. *First Year.*

5b. **Neurology.** A study of the central nervous system and sense organs. Laboratory, two periods, with one lecture a week. Laboratory fee, $3.50. *First Year.*

6a. **Advanced Dissection.** Dissection of the head and neck. Laboratory fee, $4.50. Three laboratory periods a week. *Second Year.*

7b. **Topographic Anatomy.** A study of the topography of the various organs by means of serial sections through the entire body.

Laboratory fee, $4.50. Three laboratory periods a week. *Second Year.*

8b. **Advanced Human Embryology.** *One lecture and two laboratory periods a week.* Elective.

9. **Advanced Anatomy.** Advanced work in Anatomy or Histology, the character of which may be varied to suit individual needs. Hours to be arranged. Elective.

In connection with this course, a Seminary is held once a week (which may be taken separately, if desired), at which reports are made on recent literature and work in progress.

10. **Research.** Opportunity is afforded to a limited number of properly qualified students for original investigation in Anatomy or Histology. Hours to be arranged. Elective.

Chemistry.

11. **Organic Chemistry.** The aim of this course is to give a general survey of the principal classes of organic compounds, such as hydrocarbons, alcohols, phenols, ethers, aldehydes, acids, esters, fats, carbohydrates, etc. In so far as it is possible, the student prepares in the laboratory representatives of the various classes of compounds and studies their reactions. One lecture and two laboratory periods a week. Professor CALVERT; Mr. SMITH; Mr. JONES.

For other courses in Chemistry which are given in the College of Arts and Science and which may be elected, see page 138.

Diseases of the Eye, Ear, Nose and Throat.

Professor NOYES.

1. **Diseases of the Eye, Ear, Nose, and Throat.** Lectures and Recitations. *Twice a week.* Fourth year. Texts: Fuchs, May, Kyle, and Gleason.

2. **Clinics.** *Four times a week.* Fourth Year.

Internal Medicine and Therapeutics.

Professor Moss; Assistant Professor CALVERT.

1. **Practice of Medicine.** Lectures and recitations. Reports of cases and reading of papers by members of the class, and discussion of the same by the class and Professor. Third and fourth years. (3). Professor Moss.

2. **Clinical Medicine.** This course is given in the wards and dispensary clinic of the Parker Memorial Hospital. The students in this course are requested to make written reports of cases in their charge, and to write articles upon subjects assigned. These articles and reports are read and discussed by the class and Professor. A student can visit a patient assigned him at any hour in the day under the direction of one of the hospital interns. Third and fourth years. *A six hour course.* Professor Moss; Assistant Professor CALVERT.

3. **Clinical Pathology.** Pursued during one laboratory period a week throughout the Fourth Year. Assistant Professor CALVERT.

4. **Clinical Pathology.** Pursued during two laboratory periods a week throughout the Third Year. The work consists of lectures and practical study of sputum, blood, etc., in the laboratory. Each student is provided with a microscope and necessary apparatus. General appartus and reagents are always at hand. In this course especial attention is given to the application of laboratory methods to diagnostication and their role in the interpretation of the symptom complex of diseases. (3). Assistant Professor CALVERT.

5. **Therapeutics.** Aside from drugs, general therapeutical considerations, such as hydrotherapy, electrotherapy, diatetics, etc., receive due attention. Prescription writing becomes a matter of daily drill, and the elegance or incompatibility is tested by actual preparation by the student. Sections of the class under charge of the instructor visit the Parker Memorial Hospital to familiarize themselves with the technique of the hypodermic syringe, aspirator, cautery, stomach tube, stupe, and with various baths and packs. The student closely follows at the bedside the action of drugs in disease, dietetics, nursing, etc., and reports upon the same. *Two hours a week.* Third Year. Professor Moss.

6. **Physical Diagnosis.** Pursued during one laboratory period a week throughout the Third Year. The work consists of (1) lectures on ausculation, with practical work on the normal and diseased organs; (2) a study of the several diseases affecting the thoracic viscera, by lectures, demonstrations of organs and charts whenever possible, and by clinics. From time to time the class may visit some of the large State institutions for additional work. Assistant Professor CALVERT.

Elective. A limited number of students prepared to do advanced work may be assigned to special problems during the Second semester of the Third and throughout the Fourth Year. A credit may be given. Assistant Professor CALVERT.

Obstetrics and Gynecology.

Professor MYER.

1b, 2a. **Obstetrics.** Lectures and clinics. A complete set of abnormal pelves, Auzoux models of the uterus and contents of the various periods of gestation and charts are employed for demonstration. Each student is required to diagnose presentations, positions, and perform all obstetrical operations on the Schultze-Winckel manikin. The maternity ward of the Hospital offers opportunity for the observation of cases, and besides this, ample material is furnished the students in the outdoor clinic, where they are permitted to care for cases, under the supervision of the Head of the Department. *Three times a week. Second semester,* Third Year; *First semester,* Fourth Year.

3. **Gynecology.** The lectures, with demonstrations of museum specimens, give the students a general theoretical knowledge of the subject. Bedside clinics are conducted daily. All clinical operations are witnessed by the students. *Twice a week.* Fourth Year.

Pathology, Bacteriology and Hygiene.

Professor MILLER; Assistant Professor SCHORER; Dr. MITCHELL.

1. **Pathology, General and Special.** The conduct of the necropsy, macroscopic, microscopic, bacteriologic, experimental, writing of protocol. This work includees the study of degeneration, regeneration, inflammation, the effects of poisons, the infections, animal parasites, and tumors. While the work centers about the post-mortem examination, the radius of operation extends into the field of experimental pathology and is rounded out by the study of preserved material derived from former necropises or obtained elsewhere. When the work of the student is not directed to the post-mortem examination or demonstration of gross material, about five microscopic sections are given daily to the student for staining, mounting, and study. These preparations have a permanent value and become the property of the student. Lectures and laboratory. *Four times a weeek; three lectures and one laboratory period, first semester. Eight times a week; four lectures and four laboratory periods, second semester.* Second Year. Laboratory deposit for *First semester,* $5; *Second semester,* $10. Professor MILLER; Dr. MITCHELL.

2. **Pathology: Research Work.** A limited number of properly qualified students are admitted to the laboratory for this work. Results of such work must be submitted in writing and be of such nature as may be approved for publication. Professor MILLER.

3a. **Bacteriology: General, Medical and Sanitary.** A laboratory and lecture course designed to give the student a general survey of the field of bacteriology and parasitology. The student prepares media, learns the principles of sterilization, disinfection, isolation, cultivation, staining, and identification of bacteria. All the important functions of bacteria are considered. The relations of bacteria to disease in general, the study of the biological characters and the isolation and disinfection, of specific pathogenic forms, their pathologic and epidemologic relations and the theories of immunity, are considered. In the latter part of the course the more important pathogenic protozoa, worms and other parasites are taken up, so that on the completion of the course the student will have attained a practical knowledge of human and comparative parasitology.

Lectures and laboratory, *three times a week.* First year. Laboratory deposit, $10.00. Assistant Professor SCHORER.

4. **Bacteriology, Research Work.** Explanation as given under course 2. Assistant Professor SCHORER.

5b. **Hygiene.** Lectures and recitations on the following subjects: History of hygiene, importancee of the subject; predisposing causes of disease—age, sex, race, occupation, environment, conjugal and connate conditions, climate, clothing, food, home, and heredity; exciting causes of disease, giving especial attention to the ways of spreading and of preventing such diseases as malaria, typhoid fever, diphtheria, tuberculosis, pneumonia, influenza, whooping cough, measles, scarlet fever, smallpox, plague; practical sanitary disinfection and sterilization, quarantine, boards of health and vital statistics; water supplies and filtration plants, sewerage and sewage purification and disposal.

For Medical and Engineering students and properly qualified students of other courses.

Three times a week, Second year. Assistant Professor SCHORER.

6, a or b. **Hygiene.** A popular lecture course on the hygiene of communicable diseases, their causes, means of dissemination and prevention. This course is designed for any student of the university and is given in response to the demands for information on matters pertaining to personal and public health. *Two lectures a week,* at hours to be arranged. Assistant Professor SCHORER.

7. **Seminary.** Journal work and Demonstrations in Pathology, Parasitology and Hygiene.

Twice a month. Elective by advanced students and graduates. Professor MILLER, and Assistant Professor SCHORER.

Physiology and Pharmacology.

Professor GREENE; Dr. GIBSON; Dr. SCHULTZ; Mr. BERGER.

2a. **Experimental Physiology.** The physiology and physiological chemistry of the proteins; of muscles, nerve, and connective tissues; of blood, secretions, digestion, absorption, intermediary metabolism, and excretion; of nutrition, heat production, and heat regulation. A metabolism experiment, with a complete quantitative examination of the urine, is required. (4). Laboratory charge, $4.00. Dr. GIBSON.

3a. **Experimental Physiology.** The physiology of muscles and nerve, circulation, respiration, nervous system, and sense organs. (6). Laboratory charge, $6.00. Professor GREENE; Dr. SCHULTZ.

5b. **Experimental Pharmacology.** This course presents the physiological action of drugs. The experimental method is used throughout, the demonstrations being made on man and lower animals. (4). Laboratory charges, $5.00. Professor GREENE; Dr. GIBSON; Dr. SCHULTZ.

10. **Advanced Physiology.** Advanced courses in Physiology, Pharmacology, and Physiological Chemistry. Individual problems will be assigned to students of sufficient preparation. Laboratory charge to be arranged. Professor GREENE; Dr. GIBSON; Dr. SCHULTZ.

11. **Investigation.** Opportunity is offered for research into questions of current interest. Professor GREENE.

Surgery.

Professor MCALESTER; Professor NIFONG.

1. **Principles of Surgery.** Lectures and recitations, including inflammation, ulceration, septicaemia, etc., bandaging, dislocation and fracture dressing, major and minor operations. *Three times a week.* Third and Fourth Year. Professor MCALESTER.

2b. **Operative Surgery.** This course includes operations on the cadaver and on the lower animals, with instruction in the details of operative preparations, dressings, etc. *Twice a week, Second Semester.* Third Year. Professor MCALESTER.

3. **Clinical Surgery.** Clinics are held daily in the Dispensary and the wards of the Parker Memorial Hospital. Juniors and Seniors assist in all operations. *Six times a week,* Third and Fourth Years. Professor McALESTER and Professor NIFONG.

4. **Genito-Urinary Diseases.** One lecture a week, with additional clinics. Third year. Professor NIFONG.

Zoology.

Professor LEFEVRE; Mr. TANNREUTHER.

5b. **Embryology of Vertebrates.** The course is designed to lay the foundation of Vertebrate Embryology. In the laboratory, successive stages in the development of both the chick and pig are carefully studied from preparations of entire embryos and from sections. These observations are used as a basis of comparison for the study of human embryology. Lectures and laboratory.

Special Courses.

1b. **Medical Jurisprudence.** *Once a week.* Fourth Year. Professor McALESTER.

6. **Dietetics.** The composition, digestibility, and nutritive value of foods as found on the market and as prepared for the table. Principles of Dietetics. Text: Hutchinson's Food and Dietetics. Lectures, demonstrations, and recitations. *Three times a week, First semester, Third Year.* Assistant Professor DAY.

Nervous and Mental Diseases. Two lectures, with additional clinics, *every two weeks.* An additional course of four lectures on insanity, with clinical demonstrations, will be given at the Fulton Hospital for the Insane. Third and Fourth Years. Dr. ————.

Pediatrics. One lecture a week, with additional clinics. Third and Fourth Years. Dr. ————.

Dermatology (including Electrotherapeutics). One lecture a week with additional clinics. Third and Fourth Years. Dr. ————.

1b. **Climatology.** This course is given once a week during the Second semester to Fourth Year students. The course embraces a description of instruments and methods used in determining climatic conditions and changes; the origin of the atmosphere, its evolution, composition, pressure, circulation; atmospheric temperatures—insolation, radiation, absorption, transmission, conduction and reflection; distribution of temperatures over land and water; winds, general

and local, and their influence upon climate; moisture, absolute and relative humidity, and sensible temperature; clouds and sunshine; precipitation, causes and distribution; climate and weather; climate and health; comparison of climatic conditions at well known health resorts of the world; weather records and health statistics; weather forecasting. Mr. REEDER, of the U. S. W. B.

1a. **Comparative Medicine.** Lectures, laboratory demonstrations, and clinics. This course is offered to afford students of human Medicine an opportunity to broaden their knowledge of clinical symptoms and pathological processes. Special attention is given to those diseases of lower animals that are communicable to man. Certain of the non-communicable diseases of the lower animals are considered, where the comparative study is deemed important for the better understanding of the corresponding human maladies. The students are made familiar by practical demonstrations with clinical as well as finer methods of diagnosis. They are also instructed in the measures that are employed for eradicating or controlling these sources of infection to man. The library, laboratory, and clinics of the Veterinary Department are available as aids to this instruction. *Twice a week.* Elective. Third or Fourth Year. Professor CONNAWAY.

For special announcement of the Department of Medicine, or for further information, address

C. M. JACKSON, M. D., Junior Dean,
Columbia, *Mo.*

DEPARTMENT OF ENGINEERING.

OFFICERS OF INSTRUCTION AND ADMINISTRATION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,
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Assistant Professor of Mechanical Engineering, in charge of Shops.

EDWIN ALLAN FESSENDEN, B. S. in M. E., M. E.,
Assistant Professor (in charge) of Mechanical Engineering.

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Instructor in English.

LOUIS INGOLD, A. B., A. M., Ph. D.,
Instructor in Mathematics.

MARION SCHIRLEY BOWEN,
Instructor in Shopwork.

JAMES WILLIAM PUTNAM, Ph. B., A. M.,
Instructor in Economics.

MARLOW ALEXANDER SHAW, A. B., Ph. D.,
Instructor in English.

HOWARD DOTY CARPENTER, A. B., A. M.,
Instructor in Electrical Engineering.

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Instructor in Mechanical Drawing.

JAMES ROY WHARTON, B. S. in M. E., M. E.,
Instructor in Mechanical Engineering.

JAMES ANDERSON GIBSON, B. A., M. A.,
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Instructor in Mathematics.

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Instructor in Mechanical Drawing.

EDWARD ALLEN THURBER, A. B., A. M.,
Instructor in English.

HOMER HOWARD HARBOUR, A. B.,
Instructor in English.

ERNEST EARL MORLAN, A. B., A. M.,
Assistant in Chemistry.

ELI STUART HAYNES, A. B.,
Assistant in Astronomy.

HARLEY EARL HOWE, B. S.,
Assistant in Physics.

PETER THOMPSON HEDGES, B. S.,
Assistant in Mathematics.

MERLE RANDALL, A. B.,
Assistant in Chemistry.

HARVEY WHITFIELD PECK, A. B., A. M.,
Assistant in English.

HARRY CLAIR PHILIPPI, B. S.,
Assistant in Physics.

HARRY ANDERSON LARUE, B. S.,
Assistant in Surveying.

ALICE MILROY PAINE, B. S. in Ed.,
Assistant in Mathematics.

MENDEL PENCO WEINBACH, A. B., B. S. in E. E., A. M.,
Assistant in Electrical Engineering.

ADRIANA M. LEIPSNER,
Assistant in Mathematics.

SAMUEL MOREELL,
Student Assistant in Physics.

CLARENCE ESTES,
Problem Reader in Chemistry.

JACOB CLUBB BEAM,
Student Assistant in Dynamo Laboratory.

KARL ABSOLAM McVEY,
Student Assistant in Dynamo Laboratory.

WILLIAM CLYDE MOREHEAD,
Student Assistant in Dynamo Laboratory.

JAMES HERBERT VAN WAGENEN,
Problem Reader in Mechanics.

CECIL SHANNON LYNCH,
Student Assistant in Physics.

PERD O. SMITH,
Problem Reader in Mechanics.

WILL HARVEY BAINUM,
Problem Reader in Mechanics.

FRED GEORGE HECHLER,
Student Assistant in Mechanical Engineering.

RALPH EARLY DUFFY,
Student Assistant in Shopwork.

LEWIS W. DUMAS,
Student Assistant in Shopwork.

ARTHUR JOHN FAUSEK,
Student Assistant in Shopwork.

Requirements for Admission:

For information in regard to requirements for admission, see pages 71-81.

Tuition, Charges and Fees:

For information in regard to tuition, charges, fees, scholarships, etc., see pages 102-104, 92-97.

Courses and Degrees:

There are five courses offered leading respectively to the degrees of Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Mechanical Engineering, Bachelor of Science in Sanitary Engineering and Bachelor of Science in Chemical Engineering.

The degrees of Civil Engineer (C. E.), Electrical Engineeer (E. E.), Mechanical Engineer (M. E.), and Chemical Engineer (Ch. E.), will be conferred on candidates who, after receiving the first degree from this University or one of equivalent standing, have spent in the same course one year (at least ten hours a week) in graduate work in the University, or two years in professional practice and in graduate work *in absentia,* each year the equivalent of twelve hours of University credit. The candidate must pass an examination on his graduate work and present a satisfactory thesis. The thesis subject shall be presented to the Dean on or before November 1, and the thesis shall be presented on or before May 1 of the given year. Those who with professional practice pursue graduate work *in absentia* must be regularly enrolled as graduate students, paying the usual fees.

ANNOUNCEMENT OF COURSES OF INSTRUCTION IN ENGINEERING, 1908-09.

Civil Engineering.

The field covered by this course is a very wide one, embracing topographical, railway, hydraulic, structural, municipal, and sanitary engineering, and it is the aim to give a broad general training which may later serve as a foundation for the development of any of the special lines of practice under the general term, Civil Engineering.

The course has, therefore, been arranged with the purpose of providing thorough training in those fundamental sciences and principles upon which the practice of the civil engineer is based, and also, in so far as practicable, of giving instruction in the special subjects which underlie the several branches.

For tabulated statement of the course in Civil Engineering, see next page.

COURSE IN CIVIL ENGINEERING.

General Subject.	No. Course.	Special Title.	Semester.		Hours.			
		FRESHMAN YEAR.	I.	II.	Sec. VI.	Sec. VII.	Sec. VIII.	Sec. IX.
Mathematics..	2Aa	Algebra.....	2	.....	T. Th., 12.....	T. Th., 8.....	T. Th., 11.....	T. Th., 2.
Mathematics..	2Ba	Trigonometry.....	3	.....	M. W. F., 12..	M. W. F., 8...	M. W. F., 11..	M. W. F., 2.
Mathematics..	2b	Analytical Geometry...	.....	5	Daily, 12.....	Daily, 8.....	Daily, 11.....	Daily, 2.
English.....	1	Composition and Rhet..	3	3	M. W. F., 11..	T. Th., 9; W.10	T. Th., 12; F.10	M. W. F., 8.
Chemistry....	2	General Inorganic Chemistry.....	4	4	M. W. 9; F. 10; T. Th. 8-9:30.	M. W. F. 9; T. Th. 11-12:30..	M. W. F. 12; M. W. 2-3:30....	M. W. 9; F. 11; T. Th. 3:30-5.
Drawing.....	1a	Mechanical Drawing....	3	.....	T. W. Th. 2-4..	M. W. F. 2-4..	T. Th. 8-10; F., 2-4.....	T. Th. 8-10; M., 11-1.
Drawing.....	2b	Descriptive Geometry..	.....	3	F. 9; T. Th. 2-4	F. 2; M. W. 2-4.	F. 2; T. Th.8-10	F. 9; T.Th.11-1
Drawing.....	5a	Topographical Drawing.	1	.....	F. 8-10.....	M., 10-12.....	M., 8-10.....	W., 10-12.
Civil Eng.....	2b	Elementary Surveying..	.....	3	M.W.F., 2-4:30.	T.Th.2-4:30; F. 11-1.....	W.F.8-10; M. 8-11.....	T. Th. 8-10. W. 10-1.
Shopwork....	1a	Woodwork and Forging.	2	.....	M. F., 2-4.....	T. Th., 2-4....	W. F., 8-10....	T. Th., 11-1.
		SOPHOMORE YEAR.			Sec. IV.	Sec. V.		Sec. VI.
Mathematics..	4E	Calculus.....	5	5	M.T.W.Th.F., 8....	M.T.W.Th.F., 12....		M.T.W.Th., F. 8
Physics.....	3A	General Physics.....	4	4	M.W., 10; M.W., 9.	M.W., 10; M.W., 11		M.W., 10; T.Th., 9.
Physics.....	3B	General Physics Lab...	2	2	T.Th., 11-1.....	M.W., 2-4:30.....		M., 11-1; F., 9-11.
Civil Eng.....	4a	Higher Surveying.....	3	.....	M.W.F., 2-4:30....	M.W. 8-10; F., 8-11.		T. Th. 2-5; W., 11-1.
Civil Eng.....	11b	Railway Surveying.....	.....	3	M.W.F., 2-4:30....	M.W., 8-10; F., 8-11.		T.Th., 2-5; W.11-1.
Drawing.....	4b	Machine Drawing.....	.....	2	W.F., 11-1	T.Th., 8-10.....		T.Th., 11-1.
Drawing.....	3a	Stereotomy.....	2	.....	W. F., 11-1.....	T. Th., 8-10.....		T. Th., 11-1.
Civil Eng....	31b	Masonry Construction..	.....	2	T. Th., 9.....	T. Th., 11.....		M. W., 9.
Civil Eng....	81a	Roads and Sewers.....	2		T. Th., 9.....	T. Th., 11.....		M. W., 9.

COURSE IN CIVIL ENGINEERING—Continued.

General Subject.	No. Course.	Special Title.	Semester.		Hours.	
		JUNIOR YEAR.	I.	II.	Section I.	Section II.
Mechanics	3	Mechanics of Eng	5	5	M. T. W. Th. F., 8	M. T. W. Th. F., 12.
Civil Eng	12a	Railway Engineering	3	.....	M. W., 2-5:30; Th., 9	M. W., 8-11:30; F., 9.
Astronomy	5	Spherical and Practical Astronomy	2	2	T., 11; one observatory period	Th., 11; one observatory period.
Mech. Eng	1a	Steam Engineering	2	.....	T. Th., 12	T. Th., 8.
Civil Eng	21	Framed Structures	3	3	M. W. F., 9-11:30	M. W. F., 2-4:30.
Civil Eng	52b	Sanitary Engineering	.....	2	T. Th., 9	T. Th., 9.
Civil Eng	32b	Materials of Construct'n	.....	2	F., 10; W. or F. 2-4:30	F., 10; T. or Th., 2-4:30.
Civil Eng	13b	Railway Economics	.....	2	T. Th., 12	W. F., 9.
		SENIOR YEAR.			Section I.	Section II.
Civil Eng	41a	Hydraulic Machinery	2	.....	Lec. F., 10; Rec. T., 9	Lec. F., 10; Rec. Th., 9.
Mech. Eng	11b	Mechanical Laboratory	.....	1	W., 10:30-1	W., 8-10:30.
Civil Eng	5b	Geodetic Surveying	.....	3	M., 2; T. Th., 2-5:30	M., 2; W. F., 2-5:30.
Civil Eng	42b	Hydraulic Design	.....	2	T. Th., 11-1	T. Th., 8-10.
Civil Eng	22a	Bridge Design	5	.....	M. W. F. 8-10; T. Th. 11-1	M. T. W. Th. F., 2-4.
Civil Eng	23b	Higher Structures	.....	3	M. W. F., 8	T. Th. F., 12.
Civil Eng	25a	Masonry Structures	3	.....	W. F., 11; M., 11-1	M. W., 12; F., 11-1.
Civil Eng	33a	Testing Laboratory	1	.....	T. or W., 2-4:30	M., 8-10; or W., 9-11.
Civil Eng	61b	Spec. and Contracts	.....	1	F., 10	F., 10.
Economics	2a	Prin. of Economics	2	.....	T. Th., 8	T. Th., 8.
Civil Eng	100b	Thesis	.....	2		
		Elective	2	3		

Electrical Engineering.

This course is intended to prepare students for electrical designing, manufacturing, contracting, and for the installation and management of light and power stations; in short, it is a thorough, broad training for Electrical Engineers.

The first two years are devoted to preliminary training in English, mathematics, the sciences, and in drawing and shopwork. The technical work comes in the last two years and consists of the theory and principles of electricity and magnetism; electrical measurement; calibration of instruments; tests of all kinds; design and contruction; study of special problems in the generation, transmission, distribution, and utilization of electrical energy.

Special attention is paid to alternating current phenomena.

Instruction is given by means of recitations, lectures, and laboratory work, thoroughly correlated and arranged.

The apparatus is new, from the best makers, and includes instruments for electrical measurements of precision, an electric light and power plant, numerous types and sizes of direct and alternating current generators and motors, measuring instruments, etc.

For tabulated statement of the course in Electrical Engineering, see next page.

COURSE IN ELECTRICAL ENGINEERING

General Subject.	No. Crs.	Special Title.	Semester.		Hours.				
		FRESHMAN YEAR.	I.	II.	Sec. I.	Sec. II.	Sec. III.	Sec. IV.	Sec. V.
Mathematics..	2Aa	Algebra.....	2	.....	T.Th., 8....	T.Th., 2....	T.Th., 9....	T.Th., 8....	T.Th., 2.
Mathematics..	2Ba	Trigonometry.....	3	.....	M.W.F., 8...	M.W.F., 2...	M.W.F., 9...	M.W.F., 8...	M.W.F., 2.
Mathematics..	2b	Analytical Geometry.	.....	5	Daily, 8....	Daily, 2....	Daily, 9....	Daily, 8....	Daily, 2.
English.....	1	Comp. and Rhetoric..	3	3	T. Th., 9; W. 10.....	T.Th., 11; F., 10.	M.W.F., 8...	M.W.F., 12..	M.W.F., 8.
Chemistry....	2	Gen'l. Inorganic Chem	4	4	M.W., 9; F., 10; T.Th., 11-12:30...	M.W., 12; F., 11; M. W., 10-11:30...	M.W., 12; F., 10; M. W., 10-11:30...	M. W. F; 9; T. Th., 2 3:30.....	M.W., 9; F., 11; T. Th., 3:30-5.
Drawing.....	1a	Mech. Drawing.....	3	.....	T.W.Th., 2-4	M.W.F., 8-10	T.Th.F., 11-1	M.W.F.,10-12	M.T.Th.,11-1
Drawing.....	2b	Descrpt. Geometry...	.....	3	F.,9; T.Th., 2-4.....	F.,9; M.W., 8-10.....	F.,2; T.Th., 11-1.....	F.,2; M.W., 10-12.....	F.,9; T.Th., 11-1.
Shopwork....	1a	Woodwk.and Forg'ng.	3	.....	M.W.F., 11-1	T.Th., 8-10; F., 3-5.	T.W.Th., 2-4	T.Th., 11-1; M., 2-4....	T.Th., 8-10; F., 9-11.
Shopwork....	2b	Pattern Making.....	.....	3	F., 11; M. W. 11-1.....	F., 12; T.Th., 8-10.....	F.,11; T.Th., 2-4.....	F., 11; T.Th., 11-1.....	F., 12; T.Th., 8-10.
		SOPHOMORE YEAR.			Sec. I.		Sec. II.		Sec. III.
Math.....	4E	Calculus.....	5	5	M.T. W. Th. F., 12..		M. T. W. Th. F., 11..		M. T. W. Th. F., 8.
Physics.....	3A	General Physics.....	4	4	M. W., 10; T. Th., 8.		M.W., 10; T.Th., 12..		M.W., 10; T.Th., 11.
Physics.....	3B	General Physics Lab..	2	2	M. W., 8-10.....		T. Th., 8-10.....		W. F., 11-1.
Shopwork....	3	Machine Work.....	2	2	T. Th., 2-4.....		W. F., 8-10.....		M. 11-1; W., 2-4.
Civil Eng....	1a	Elementary Survy'g..	2	.....	W., 2-4:30; F., 8-11...		M. F., 2-4:30.....		T. Th., 2-4:30.
Drawing.....	4b	Machine Drawing....	.....	2	M. F., 2-4:30.....		M. F., 2-4:30.....		T. Th., 2-4:30.
Mech. Eng...	1b	Steam Engineering...	.....	3	M. W. F., 11.....		M. W. F., 12.....		M. W. F., 9.
Mech. Eng...	2a	Kinematics.....	3	.....	M. W. F., 11.....		M. W. F., 12.....		M. W. F., 9.

COURSE IN ELECTRICAL ENGINEERING.—Continued.

General Subject.	No. Crs.	Special Title.	Semester.		Hours.		
		JUNIOR YEAR.	I	II	Sec. I.	Sec. II.	Sec. III.
Mechanics....	3	Mechanics of Eng....	5	5	M.W., 12; T.Th. F.,11.	M.W., 8; T.Th.F., 9..	M.W., 12; T.Th.F., 9.
Physics.....	4	Elec. Measurements..	2	2	F., 8; W., 2-4:30.....	F., 8; M., 2-4:30.....	F., 8; Th., 2-4:30.
Elec. Eng....	1	Elec. Machinery.....	4	4	W., 9; Th., 9; T.Th., 2-4:30.....	W., 9; Th., 11; M. W., 10-12:30.....	W., 9; Th., 8; M. W., 2-4:30.
Elec. Eng....	2	Alternating Currents.	3	3	T.Th., 12; M., 2-4:30..	T.Th., 12; W., 2-4:30..	T.Th., 12; F., 2-4:30.
Elec. Eng....	6	Seminary.....	1	1	F., 10.....	F., 10.....	F., 10.
		SENIOR YEAR.			Sec. I.		Sec. II.
Mech. Eng....	13	Mech. Laboratory....	2	2	T., 8; Th., 2-4:30.....		Th., 8; T., 2-4:30.
Elec. Eng....	3	Advanced Alt. Currnts	3	3	T. Th., 11; T., 2-4:30.		T. Th., 11; Th., 2-4:30.
Elec. Eng....	4	Elec. Design.....	3	3	M. W. F., 8-10:30.....		M. W. F., 8-10:30.
Elec. Eng....	5	Elec. Engineering....	3	3	M. W. F., 11.....		M. W. F., 11.
Economics....	2a	Prin. of Economics...	2	.....	T. Th., 9.....		T. Th., 9.
Economics....	7b	Ind. Organizations...	.....	2	T. Th., 9.....		T. Th., 9.
Elec. Eng....	7b	Thesis.....	.....	2			
		Elective.....	2				

Mechanical Engineering.

This course, of four years, is intended to fit students to enter readily any of the principal divisions of Mechanical engineering. The aim of the work is to make the student self-reliant, and to that end he is required to solve original problems in design and in the laboratory, and to arrange, set up and adjust the apparatus used in his experiments. He is trained in the underlying principles of the profession, all work being so arranged that the application of these principles to special problems, which may arise in practice, may be clearly seen. The design of engineering structures and machines and the development, application and measurement of power in its various forms are covered in the different courses. The instruction is carried on principally by the aid of text-books and laboratory work, lectures being used to supplement the text-books. In the class-room definite problems are given for solution, which problems in most cases are taken from practice. The department is equipped with an excellent working library of technical books and the reading room is supplied with the best Engineering magazines. The new Engineering laboratory has been equipped with steam, gas and oil engines, pumps, injectors, air compressors, fans, blowers, turbines, hoisting appliances and apparatus for testing these and standardizing instruments. This apparatus will familiarize the student with the use and care of these machines, as well as with the theoretical principles underlying their design, construction and use. In equipping the laboratory it has been the aim to select the apparatus so as to bring the student in contact with most of the modern forms and types of machines for developing and measuring power and to have him make most of the tests which a Mechanical Engineer is called upon to make as well as to develop the ability to attempt original investigations or tests. The Power Plant of the University is used at times by the students for the purpose of making tests

The outline of the courses given below shows the division of the work and the description of the course gives the main features of each. The first two years are mainly preparatory, instruction being given in English, Mathematics, Physics, Chemistry, Drawing and Shopwork to prepare the student for the technical work of the last two years. In the last two years the work is mainly in this department, certain allied work being given by the department of Civil and Electrical Engineering.

COURSE IN MECHANICAL ENGINEERING.

General Subject.	No. Crs.	Special Title.	Semester.		Hours.				
		FRESHMAN YEAR.	I	II	Sec. I.	Sec. II.	Sec. III.	Sec. IV.	Sec. V.
Mathematics..	2Aa	Algebra.....	2	.....	T.Th., 8....	T.Th., 2....	T.Th., 9....	T.Th., 8....	T.Th., 2.
Mathematics..	2Ba	Trigonometry.....	3	.....	M.W.F., 8...	M.W.F., 2...	M.W.F., 9...	M.W.F., 8...	M.W.F., 2.
Mathematics..	2b	Analytical Geometry.	.....	5	Daily, 8....	Daily, 2....	Daily, 9....	Daily, 8....	Daily, 2.
English.....	1	Comp. and Rhetoric..	3	3	T.Th., 9; W., 10.....	T.Th.,11; F., 10.	M.W.F., 8...	M.W.F., 12..	M.W.F., 8.
Chemistry....	2	Genl. Inorganic Chem.	4	4	M.W., 9; F., 10; T. Th., 11-12:30...	M.W., 12; F., 11; M. W., 10-11:30...	M.W., 12; F., 10; M. W., 10-11:30...	M.W.F., 9; T. Th., 2-3:30:.....	M.W.. 9; F., 11; T. Th., 3:30-5.
Drawing.....	1a	Mech. Drawing.....	3	.....	T.W.Th., 2-4	M.W.F., 8-10	T.Th.F., 11-1	M.W.F.,10-12	M.T.Th.,11-1
Drawing.....	2b	Descriptive Geometry	.....	3	F., 9; T.Th., 2-4.....	F. 9; M. W., 8-10.....	F. 2; Tv Th., 11-1.....	F. 2; M. W., 10-12.....	F. 9; T. Th., 11-1.
Shopwork....	1a	Woodwork and Forg..	3	.....	M.W.F., 11-1	T.Th., 8-10; F., 3-5.....	T.W.Th., 2-4	T.Th., 11-1; M., 2-4....	T.Th., 8-10; F., 9-11.
Shopwork....	2b	Pattern Making.....	.....	3	F., 11; M.W., 11-1.....	F., 12; T.Th., 8-10.....	F., 11; T.Th., 2-4.....	F., 11: T.Th., 11-1.....	F., 12; T.Th., 8-10.
		SOPHOMORE YEAR.			Sec. I.		Sec. II.		Sec. III.
Mathematics..	4E	Calculus.....	5	5	M.T.W.Th.F., 12.....		M.T.W.Th.F., 11.....		M.T.W.Th.F., 8.
Physics.....	3A	General Physics.....	4	4	M.W., 10; T.Th., 8...		M.W., 10; T.Th., 12..		M.W., 10; T.Th., 11.
Physics.....	3B	Genl. Physics Lab....	2	2	M. W., 8-10.....		T. Th., 8-10.....		W. F., 11-1.
Shopwork....	3	Machine Work.....	2	2	T. Th., 2-4.....		W. F., 8-10.....		M., 11-1; W., 2-4.
Civil Eng.....	1a	Elementary Surv....	2	.....	W., 2-4:30; F., 8-11..		M. F., 2-4:30.....		T. Th., 2-4:30.
Drawing.....	4b	Machine Drawing....	.....	2	M. F., 2-4:30.....		M. F., 2-4:30.....		T. Th., 2-4:30.
Mech. Eng...	1b	Steam Engineering...	.....	3	M. W. F., 11.....		M. W. F., 12.....		M. W. F., 9.
Mech. Eng....	2b	Kinematics.....	3	.....	M.W.F., 11.....		M. W. F., 12.....		M. W. F., 9.

COURSE IN MECHANICAL ENGINEERING—Continued.

General Subject.	No. Course.	Special Title.	Semester.		Hours.
		JUNIOR YEAR.	I.	II.	
Mechanics	3	Mechanics of Engineering	5	5	M. W., 8; T. Th. F., 11.
Mechanical Engineering	3b	Steam Boilers	.....	4	T. Th.,F., 9; M., 2-5
Mechanical Engineering	4a	Thermodynamics	3	.....	M. W. F., 10.
Mechanical Engineering	11	Mechanical Laboratory	1	1	W., 2-4:30.
Mechanical Engineering	16a	Valve Gears	2	.....	M., 2-4:30; W., 11-1.
Electrical Engineering	1	Electrical Machinery	4	3	Lec. W., 9; Rec. Th., 8; Lab. T. Th., 2-4:30.
Civil Engineering	24b	Mill Structures	.....	2	M. W., 10-12:30
		SENIOR YEAR.			
Mechanical Engineering	7a	Hydraulic Motors	2	.....	Lec. F., 10; Rec. T., 8.
Mechanical Engineering	5a	Heat Engines	3	.....	M. W. F., 8.
Mechanical Engineering	6	Steam Engine Design	2	3	1st Sem. M. W., 11-1; 2nd Sem. M. W. F., 11-1.
Mechanical Engineering	8b	Pumping Machinery	.....	2	T. Th., 8.
Mechanical Engineering	9	Machine Design	1	3	1st Sem. Th., 2-4:30; 2nd Sem. M. W. F., 8-10.
Electrical Engineering	2	Alternating Currents	3	3	T. Th., 12; W., 2-4:30.
Civil Engineering	61b	Spec. and Contracts	.....	1	F., 10.
Mechanical Engineering	12	Mechanical Laboratory	2	1	1st Sem. M. F., 2-4:30; 2nd Sem. F., 2-4:30.
Economics	2a	Principles of Economics	2	.....	T. Th. 9.
Mechanical Engineering	19b	Thesis	.....	2	

Sanitary Engineering.

This course is arranged with the purpose of combining a study of the principles of sanitary science with the fundamental training of the course in Civil Engineering.

The Freshman and Sophomore years are identical with those of the Course in Civil Engineering (p. 291) In the two later years, the work in structural and railway engineering is reduced and more attention is given to Sanitary Engineering. Thorough courses are arranged in those sciences which immediately underlie this particular branch, Bacteriology, Chemistry, Hygiene, and special instruction is given in building and municipal sanitation, sewage disposal, and water purification.

General Subject.	No. Course.	Special Title.	Semester.		Hours.
		JUNIOR YEAR.	I.	II.	
Mechanics	3	Mechanics of Engineering	5	5	M. T. W. Th. F., 12.
Chemistry	12	Technical Chemistry	3	3	
Civil Engineering	21	Framed Structures	3	3	M. W. F., 2-4:30.
Mechanical Engineering	1a	Steam Engineering	2	.....	T. Th., 8.
Civil Engineering	32b	Materials of Construction	.....	2	Lec. F., 10; Lab. T., 2-4:30.
Civil Engineering	52b	Sanitary Engineering	.....	2	T. Th., 9.
Bacteriology	1a	General Bacteriology	3	.....	

		SENIOR YEAR.			
Civil Engineering	41a	Hydraulic Machinery	2	.....	Lec. F., 10; Rec. Th., 9.
Mechanical Engineering	8b	Pumping Machinery	.....	2	T. Th., 8.
Mechanical Engineering	11b	Mechanical Laboratory	.....	1	W., 8-10:30.
Hygiene	7b	Hygiene	.....	3	
Geology	6b	Geology for Engineers	.....	3	
Economics	2a	Principles of Economics	2	.....	T. Th., 8.
Civil Engineering	22a	Bridge Design	5	.....	M. T. W. Th. F., 2-4.
Civil Engineering	42b	Hydraulic Design	.....	2	T. Th., 8-10.
Civil Engineering	61b	Spec. and contracts	.....	1	F., 10.
Civil Engineering	25a	Masonry Structures	3	.....	M. W., 12; F., 11-1.
Civil Engineering	53a	Municipal Sanitation	2	.....	T. Th., 11.
Civil Engineering	33a	Testing Laboratory	1	.....	M., 8-10.
Civil Engineering	100b	Thesis	.....	2	

Chemical Engineering.

In view of the development of the application of Chemistry on a large scale in manufacturing, this course is offered to furnish training in Engineering, together with specialization in Chemistry. It is proposed to extend the course, making it more general on the Engineering side, or to offer several parallel courses, as the demands require.

General Subject.	No. Course.	Special Title.	Semester.		Hours.
		FRESHMAN YEAR.	I.	II.	
Mathematics	1a	Trigonometry	3	.....	M. W. F., 11.
Mathematics	1bE	Analytical Geometry	.....	5	M. T. W. Th. F., 8.
English	1	Composition and Rhetoric	3	3	T. Th., 9; W., 10.
Chemistry	2	General Inorganic Chemistry	4	4	M. W., 9; F., 10; T. Th., 11-12:30.
Chemistry	6b	Qualitative Analysis	.....	3	M. W. F., 2-4:30.
Drawing	1a	Mechanical Drawing	3	.....	T. W. Th., 2-4:30.
Drawing	2b	Descriptive Geometry	.....	3	F., 9; T. Th, 2-4:30.
Mechanical Engineering	1a	Steam Engineering	3	.....	M. W. F., 12.
		SOPHOMORE YEAR.			
Physics	3A	General Physics	4	4	M. W., 10; T. Th., 12.
Physics	3B	General Physics Laboratory	2	2	T. Th., 8-10.
Mathematics	4E	Calculus	5	5	M. T. W. Th. F., 11.
Chemistry	4	Organic Chemistry	3	3	F., 10; T. Th., 2-4:30.
Chemistry	21a	Quantitative Analysis	3	.....	M. W. F., 2-4:30.
Mechanical Engineering	2b	Kinematics	.....	3	M. W. F., 12.

		JUNIOR YEAR.			
Mechanics	3	Mechanics of Engineering	5	5	M. T. W. Th. F., 12.
Chemistry	19	Physical Chemistry	3	3	T. Th., 8; One Lab. period.
Mechanical Engineering	4b	Thermodynamics	.....	3	T. Th. F., 9.
Electrical Engineering	1	Electrical Machinery	4	4	Lec. W., 9; Rec. Th., 11; Lab. M. W., 2-4:30.
Drawing	4a	Machine Drawing	2	.....	T. Th., 2-4:30.
		SENIOR YEAR.			
Chemistry	10	Technical Chemistry	3	3	
Physics	4	Electrical Measurements	2	2	M., 9; W., 2-4:30.
Mechanical Engineering	9	Machine Design	1	3	1st Sem. Th., 2-4:30; 2nd Sem. M. W. F., 8-10.
Mechanical Engineering	5a	Heat Engines	3	.....	M. W. F., 8.
		Thesis	.....	2	
		Elective to be chosen from Chemistry, E. E., M. E., and Geology.	6	5	

Hydraulic Engineering.

This course is identical during the first two years with the course in Civil Engineering and leads to the same degree. During the Junior and Senior years it differs from the course in Civil Engineering in requiring less railway and structural work and devoting more attention to Hydraulic and Irrigation Engineering.

General Subject.	No. Course.	Special Title.	Semester.		Hours.
		JUNIOR YEAR.	I.	II.	
Mechanics	3	Mechanics of Engineering	5	5	M. T. W. Th. F., 12.
Geology	6b	Geology for Engineers	.....	3	
Astronomy	5	Spherical and Practical Astronomy	2	2	Th., 11; one observatory period.
Mechanical Engineering	1a	Steam Engineering	2	.....	T. Th., 8.
Civil Engineering	12a	Railway Engineering	3	.....	M. W., 9-12:30; F., 9.
Civil Engineering	21	Framed Structures	3	3	M. W. F., 2-4:30.
Civil Engineering	52b	Sanitary Engineering	.....	2	T. Th., 9.
Civil Engineering	32b	Materials of Construction	.....	2	Lec. F., 10; Lab. T., 2-4:30.
		SENIOR YEAR.			
Civil Engineering	41a	Hydraulic Motors	2	.....	Lec. F., 10; Rec. Th., 9.
Mechanical Engineering	8b	Pumping Machinery	.....	2	T. Th., 8.
Mechanical Engineering	11b	Mechanical Laboratory	.....	1	W., 8-10:30.
Civil Engineering	61b	Spec. and Contracts	.....	1	F., 10.
Civil Engineering	25a	Masonry Structures	3	.....	M. W., 12; F., 11-1.
Civil Engineering	22a	Bridge Design	5	.....	M. T. W. Th., F. 2-4.
Civil Engineering	5b	Geodetic Surveying	.....	3	M., 2; W. F., 2-5:30.
Civil Engineering	33a	Testing Laboratory	1	.....	M., 8-10.
Civil Engineering	42b	Hydraulic Design	.....	2	T. Th., 8-10.
Civil Engineering	43a	Irrigation and Drainage	2	.....	W. F., 12.
Economics	44b	Rivers and Harbors	.....	2	W. F., 12.
Civil Engineering	2a	Principles of Economics	2	.....	T. Th., 8.
	100b	Thesis	.....	2	
		Elective	...	3	

Highway Engineering.

This course is identical during the first two years with the course in Civil Engineering and leads to the same degree. During the Junior and Senior years more time is devoted to subjects of special interest to Highway Engineers.

General Subject.	No. Course.	Special Title.	Semester. I.	Semester. II.	Hours.
		JUNIOR YEAR.			
Mechanics	3	Mechanics of Engineering	5	5	M. T. W. Th. F., 8.
Civil Engineering	12a	Railway Engineering	3	.....	M. W., 2-5:30; F., 9.
Civil Engineering	13b	Railway Economics	.....	2	T. Th., 12.
Mechanical Engineering	1a	Steam Engineering	2	.....	T. Th., 12.
Civil Engineering	21	Framed Structures	3	3	M. W. F., 9-11:30.
Civil Engineering	32b	Materials of Construction	.....	2	F. 10; W. 2-4:30.
Chemistry	5a	Organic Chemistry	3	.....	T. Th., 11.
Geology	6b	Geology for Engineers	.....	3	T. Th., 9-12.
		SENIOR YEAR.			
Civil Engineering	41a	Hydraulic Motors	2	.....	Lec. F., 10; Rec. Th., 9.
Mechanical Engineering	11b	Mechanical Laboratory	.....	1	W., 8-10:30.
Civil Engineering	42b	Hydraulic Design	.....	2	T. Th., 8-10.
Civil Engineering	22a	Bridge Design	5	.....	M. T. W. Th. F., 2-4.
Civil Engineering	25a	Masonry Structures	3	.....	M. W. 12; F. 11-1.
Civil Engineering	52b	Sanitary Engineering	.....	2	T. Th., 9.
Civil Engineering	33a	Testing Laboratory	1	.....	M., 8-10.
Civil Engineering	61b	Spec. and Contracts	.....	1	F., 10.
Economics	2a	Principles of Economics	2	.....	T. Th., 8.
Economics	6b	Economics of Transportation	.....	2	T. Th., 8.
Civil Engineering	34b	Testing Road Materials	.....	1	M., 2-4:30.
Civil Engineering	56b	Highway Structures	.....	2	M. W., 10-12.
Civil Engineering	54b	Country Roads	.....	2	T. Th., 11.
Civil Engineering	55a	City Pavements	2	.....	T. Th., 11.
Civil Engineering	100b	Thesis	.....	2	

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ENGINEERING COURSES IN DETAIL.

(Courses designated by a number with the letter a attached, thus: 4a, are given the first semester only. Those designated by a number with the letter b attached, thus: 4b, are given the second semester only. Those designated merely by a number are continuous courses and are given both semesters. Capital letters attached to a course have no reference to semester or session. Arabic numerals in parenthesis indicate the number of hours credit a semester. For schedule of days and hours, see preceding pages.)

Civil Engineering.

Professor SPALDING; Assistant Professor WILLIAMS; Assistant Professor HYDE; Assistant Professor MILLER; Assistant Professor RODHOUSE; Mr. QUERBACH; Mr. LARUE.

TOPOGRAPHICAL ENGINEERING.

1a. **Elementary Surveying.** Use and adjustment of ordinary surveying instruments. Methods employed in land surveying and leveling. (2). Must be preceded by Mathematics 2Ba. Assistant Professor WILLIAMS; Mr. LARUE.

2b. **Elementary Surveying.** Use and adjustment of ordinary surveying instruments. Methods employed in land surveying and leveling. Must be preceded by Mathematics 2Ba. (3). Assistant Professor WILLIAMS; Mr. LARUE.

3a. **Elementary Surveying.** Repetition of course 2b during *First semester.* (3). Mr. LARUE.

4a. **Higher Surveying.** City, topographic, mining, and hydrographic, surveying; determination of azimuth. (3). Assistant Professor WILLIAMS; Mr. LARUE.

5b. **Geodetic Surveying.** Elements of geodesy, with practice in use of precise instruments and reduction of triangulation. Precise level work. Must be preceded by Astronomy 5. (3). Assistant Professor WILLIAMS.

Railway Engineering.

11b. **Railway Surveying.** Theory and practice of railway surveying. Must be preceded by C. E. 2b or 3a. (3). Assistant Professor MILLER; Mr. ———.

12a. **Railway Engineering.** Complete estimate for railway line; track construction; railway structures. Must be preceded by C. E. 11b. (3). Assistant Professor MILLER.

13b. **Railway Economics.** The economics of railway construction. Must be preceded by C. E. 12a. (2). Assistant Professor MILLER.

14a. **Railway Maintenance.** Maintenance of track; signals; organization of engineering departments; accounting. (3). Assistant Professor MILLER.

Structural Engineering.

21. **Framed Structure.** Graphic statics; analysis of simple trusses. Must be preceded or accompanied by Mechanics 3. (3). Mr. QUERBACH.

22a. **Bridge Design.** Design of Beam Girder, Plate Girder, Howe Truss, and Steel Railroad Truss Bridge, with working drawings and estimates. Must be preceded by C. E. 21. (5). Assistant Professor HYDE.

23b. **Higher Structures.** Swing bridges; arches; suspension and cantilever bridges; deflection of trusses. (3). Assistant Professor HYDE.

24b. **Mill Structures.** Graphical analysis of trusses. Design of beams, girders, columns, grill foundations, and roof trusses. Must be preceded by Mechanics 3, and M. E. 14a. (2). Assistant Professor HYDE.

25a. **Masonry Structures.** Theory of masonry structures; design and estimate for masonry arch; theory and design of reinforced concrete structures. Must be preceded by Mechanics 3, and C. E. 21. (3). Professor SPALDING; Mr. QUERBACH.

Materials of Construction.

31b. **Masonry Construction.** Materials and methods employed in masonry construction; testing and use of hydraulic cement. IV, T. 9. (2). Professor SPALDING; Mr. QUERBACH.

32b. **Materials of Construction.** Properties of the more common materials used in engineering construction; methods of testing and inspection; tests for strength and elasticity of wood, iron, and steel in tension, compression, torsion and flexure; standard tests for cement and for paving brick. (2). Assistant Professor HYDE; Mr. ———.

33a. **Testing Laboratory.** Experimental investigations of the

properties of the materials of construction. Must be preceded by C. E. 32b. (1).

34b. **Testing Road Materials.** Laboratory tests of materials used in the construction of road and street surfaces. (1). Mr. ————.

Hydraulic Engineering.

41a. **Hydraulic Motors.** Theory and practice of the construction and operation of water wheels, turbines, and centrifugal pumps. Must be preceded by Mechanics 3. (2). Assistant Professor RODHOUSE.

42b. **Hydraulic Design.** Problems in design of hydraulic works; conduits; pipe lines; water towers and stand pipes; dams and gates measuring devices. Must be preceded by Mechanics 3. Assistant Professor RODHOUSE.

43a. **Irrigation and Drainage.** Institutions and practice of irrigation; discussion of problems arising in irrigation and drainage work. (2). Assistant Professor RODHOUSE.

44b. **Rivers and Harbors.** River improvement; construction of harbors, docks, breakwaters, canals, locks; river discharge. (2). Assistant Professor RODHOUSE.

Municipal Engineering.

51a. **Roads and Sewers.** Materials and methods employed in the construction of roads and pavements. The arrangement and construction of sewerage works. (2). Professor SPALDING; Mr. ————.

52b. **Sanitary Engineering.** Public water supplies; water purification; sewage disposal. (2). Professor SPALDING.

53a. **Municipal Sanitation.** General sanitation; garbage reduction; street cleaning; sewage disposal; water purification. (2). Professor SPALDING.

54b. **Country Roads.** Management and improvement of country roads; maintenance of earth roads; materials and methods employed in road surfaces; plans and estimates for road improvement. (2). Professor SPALDING.

55a. **City Pavements.** Regulation of streets; materials and methods employed in the construction and maintenance of street pavements (2). Professor SPALDING.

56b. **Highway Structures.** Design of highway structures; culverts; walls; reinforced concrete bridge. (2). Professor SPALDING.

61b. **Specifications and Contracts.** F., 10. Professor SPALDING.

100b. **Thesis.** An independent investigation or design, with complete report or discussion of results.

For Graduates.

101. **Railway Engineering.** Special advanced courses in construction, maintenance and management. Hours to be arranged. Assistant Professor MILLER.

102. **Bridge Engineering.** Problems in theory and design of framed structures. Hours to be arranged. Assistant Professor HYDE.

103. **Sanitary Engineering.** Investigations and special problems in Sanitary Science. Hours to be arranged. Professor SPALDING.

104. **Hydraulic Engineering.** Problems in hydraulics, irrigation, river and harbor improvements. Hydraulic constructions. Hours to be arranged. Assistant Professor RODHOUSE.

105. **Concrete Structures.** Theory of reinforced concrete. Special laboratory investigations. Hours to be arranged. Professor SPALDING and Assistant Professor HYDE.

106. **Geodesy and Precise Surveying.** Hours to be arranged. Assistant Professor WILLIAMS.

Electrical Engineering.

Professor SHAW; Assistant Professor FLOWERS; Mr. CARPENTER; Mr. WEINBACH.

1. **Electrical Machinery.** Theory, construction, and operation of continuous current generators, motors, measuring instruments and accessories. Laboratory: characteristics, efficiencies, heating tests, diseases and remedies. Lectures and laboratory. (4). Professor SHAW; Mr. WEINBACH.

2. **Alternating Currents.** Alternating current phenomena. Theory of current flow. Single and multiphase generators, motors, transformers, and instruments. Lectures and laboratory. (3). Assistant Professor FLOWERS; Mr. CARPENTER.

3. **Advanced Alternating Currents.** A continuation of course 2, with laboratory tests as to operation, regulation, efficiency, etc. Lectures and laboratory. (3). Assistant Professor FLOWERS; Mr. CARPENTER.

4. **Electrical Design.** Critical study of electrical apparatus and design of rheostats, transformers, generators, motors, and switchboards. (3). Assistant Professor FLOWERS.

5. **Electrical Engineering.** The generation, transmission, distribulation and utilization of electrical energy. Study of lighting, power, and transmission systems, including street railways, with regard to estimates and specifications, selection and arrangement of machinery, installation, testing, operation, and management. (3). Professor SHAW.

6. **Seminary.** Reports on current technical literature and topical discussions. Student meetings of the American Institute of Electrical Engineers are held regularly, and work for the same will constitute part of the course. (1). Mr. CARPENTER.

7b. **Thesis.** Original investigations, and presentation of results in the form of a final thesis. Hours to be arranged. (2) Professor SHAW.

Primarily for Graduates.

8. **Design.** Special problems. Thorough study and design of a single piece of apparatus, such as an induction motor, direct current generator, or rotary. Hours to be arranged. Assistant Professor FLOWERS.

9. **Telephony and Telegraphy.** Apparatus and systems. *Lines:* their properties, with special reference to effects of inductance and capacity. Wireless telegraphy. Hours to be arranged. *Professor* SHAW.

10. **Long Distance Transmission.** A thorough study of details. Hours to be arranged. Professor SHAW.

11. **Electric Railway Engineering.** Street, interurban and high speed electric railroading. Electric railway economics. *Hours to be* arranged. Professor SHAW.

12. **Storage Battery Engineering.** Hours to be arranged. *As*sistant Professor FLOWERS.

13. **Electrical Engineering Economics.** Hours to be arranged. Professor SHAW.

14. **Research.** Work and hours to be arranged to suit individuals. Professor SHAW; Assistant Professor FLOWERS.

Mechanical Engineering.

Assistant Professor FESSENDEN (in charge); Assistant Professor WESTCOTT; Assistant Professor RODHOUSE; Assistant Professor PHILBRICK; Mr. WHARTON.

1a and 1b. **Steam Engineering.** Fuels, boilers, engines and accessories. An elementary descriptive course intended to give the student the names, purposes, construction and operation of the various parts of the apparatus found in a steam power plant. Assistant Professor FESSENDEN; Assistant Professor WESTCOTT; Mr. WHARTON.

Course 1a, (2), for Juniors in Civil Engineering. Course 1b, (3) for Sophomores in Electrical and Mechanical Engineering.

2a. **Kinematics.** Elementary mechanisms; pulleys, belts, link work, gearing, cams. (3). Assistant Professor FESSENDEN; Mr. WHARTON.

3b. **Steam Boilers.** Value of fuels, determination of the sizes of grate, heating surface, stays, chimney, for a given boiler. Types of boilers for various purposes, methods of testing boilers. Boiler room accessories. Design of a boiler house. Each student is required to make a working drawing of a boiler designed by him. This course must be preceded by or taken co-ordinately with Mech. 3. *Second Semester.* (4). Assistant Professor FESSENDEN.

4a. **Thermodynamics.** Mechanical theory of heat. Cycles and their analyses. (3). Mr. WHARTON.

5a. **Heat Engines.** The application of the thermodynamics to the various forms of heat engines, air compressors, and refrigerating machines. Form of plants using such apparatus. Discussion of tests, installation and maintenance. This course must be preceded by course 4a. (3). Mr. WHARTON.

6. **Steam Engine Design.** The determination of the size of the parts of a steam engine to develop a given power. Discussions of vibrations, fly wheels, balancing, transmission of power by belts, ropes and gears, steam piping, shafts. Each student is required to make drawings of the various parts of the complete engine as designed by him. Must be preceded by Mech. 3 and M. E. 1b, M. E. 2a, and M. E. 4a. *First Semester.* (2). *Second Semester.* (3). Assistant Professor PHILBRICK.

7a. **Hydraulic Motors.** The theory of the action of turbines, measurements of power, discussion of experiments, design of wheels

for specific duty. Must be preceded by Mech. 3. (2). Assistant Professor RODHOUSE; Mr. WHARTON.

8b. **Pumping Machinery.** The history and development of pumping machinery, types of modern pumps, the design of pumps for waterworks and power transmission. (2). Assistant Professor FESSENDEN.

9. **Machine Design.** Design of special machinery. Continuation of work in mechanical drawing and engineering mechanics. The student is required to design a machine tool, crane, pump, girder, or some similar engineering structure and make finished working drawings of the same. Must be preceded by Drawing 1 and 2 and Mech. 3. *First Semester.* (1). *Second Semester.* (3). Assistant Professor FESSENDEN.

10b. **Heating and Ventilating.** The arrangement and design of systems for heating and ventilating buildings. Application to a specific building. Elective for Seniors. Hours to be arranged. Assistant Professor FESSENDEN.

11. **Mechanical Laboratory.** The calibration and adjustment of instruments, measurements of leverage, determination of the efficiency of machines, tests of materials of engineering, measurements of power, hydraulic measurements, valve setting, coal and gas calorimetry. (1). Assistant Professor WESTCOTT.

12. **Mechanical Laboratory.** Testing boilers, engines, pumps, turbines, injectors, air compressors, and refrigerating machinery for efficiency and duty. Studies in generation, transmission and application of power. Heating and ventilating. Calorimetry. *First Semester.* (2). *Second Semester.* (1). Assistant Professor WESTCOTT.

13 (A). **Mechanical Laboratory.** A course for electrical engineers. Calibration and use of instruments, tests of engines, pumps, turbines, and boilers for efficiency and duty. (1). Assistant Professor WESTCOTT.

(B) **Thermodynamics.** A course in elementary Thermodynamics to accompany the laboratory course. One hour credit for each semester. (1). Mr. WHARTON.

14a. **Graphics of Machines.** Graphical analysis of machines. Moment diagrams for shafts, friction of axles, gears, screws. (2). Assistant Professor FESSENDEN.

15. **Power Plants.** A course in the layout and arrangement of engines, boilers, pumps and auxiliaries for a modern power plant. Elective for Seniors. Assistant Professor FESSENDEN.

16a. **Valve Gears.** A study of the various forms of steam engine

valve gears and their design, using the Zeuner and Bilgram diagrams. (2). Assistant Professor FESSENDEN.

17. **Marine Engineering.** A study of the marine engine and boiler, together with the auxiliary machinery used on shipboard. Elective for Juniors and Seniors. Hours to be arranged. Assistant Professor FESSENDEN.

18. **Gas Engine Design.** The study and design of gas engines, proportioning of parts, governing, etc. Elective for Seniors. Hours to be arranged. Assistant Professor FESSENDEN.

19b. **Thesis.** An original investigation of an engineering problem. (2). Assistant Professor FESSENDEN; Assistant Professor WESTCOTT.

20. **Technical Literature.** Reports on reading of technical magazines. Assistant Professor WESTCOTT.

Students in Civil and Electrical Engineering with the required training may elect any of the above courses with the consent of the head of the department in which they are working.

Primarily for Graduates.

21. **Generation of Power.** Advanced work in the theory and design of steam, gas and oil engines, air compressors and motors, steam turbines and hydraulic motors. Hours to be arranged. Assistant Professor FESSENDEN.

22. **Transmission of Power.** Study of methods of the transmission of power, heating, lighting, and arrangement of shops, plants, industrial institutions and towns. Transportation of materials. Hours to be arranged. Assistant Professor FESSENDEN.

23. **Advanced Laboratory Work.** Determination of physical characteristics of fuels, oils, metals. Thermodynamics of heat engines. Tests of complete plants. Original investigations. Hours to be arranged. Assistant Professor WESTCOTT.

24. **Railway Engineering.** Design, construction and operation of motive power, rolling stock and the auxiliary apparatus employed. Hours to be arranged.

25. **Kinematics and Machine Design.** Advanced work in Kinematics and the design of apparatus for specific work. Hours to be arranged. Assistant Professor FESSENDEN.

26. **Refrigeration.** Advanced work in the lay-out and operation of plants for refrigeration. Hours to be arranged. Mr. WHARTON.

27. **Engineering Office Work.** Keeping of costs, estimates, organization of shops, advertising. Hours to be arranged. Assistant Professor PHILBRICK.

Mechanics.

Professor DEPOE.

1. **Elementary Mechanics.** Elementary statics and dynamics.

3. **Mechanics of Engineering.** Statics, dynamics, strength of materials, hydrostatics and hydrodynamics. Lectures and recitations. (5).

4. **Elasticity.** Mathematical theory of elasticity. (3).

9. **Hydromechanics.** An elementary course in hydrostatics and hydrodynamics. (3).

12. **Fourier's Series and Potential Functions.** Recitations and lectures. Hours to be arranged.

20. **Problems in Mechanics.** Dynamics of a rigid body. (3).

Shopwork.

Assistant Professor PHILBRICK; Mr. BOWEN; Mr. DUFFY; Mr. DUMAS; Mr. FAUSEK.

The aim of the Shopwork Courses is to train the student to think in terms of materials, operations, and processes common to the manufacture of machinery. Instruction is given orally, by text-books, and by problems, the solution of which the student works out in the shops.

1a. **Woodwork and Forging.** A study of carpentry, wood-turning and forging.

Woodwork. The student is taught the use and care of the ordinary wood-working tools, the typical operations of carpentry and wood turning, and the reading of working drawings.

Forging. This includes instruction and practice in welding and tempering, as well as in bending, forming, and drawing iron and steel. The student is required to make certain tools for use in machine work.

Three periods a week for Mechanical and Electrical engineering students and two periods a week for Civil engineering students.

2b. **Pattern Making.** A study of pattern making and the manufacture of iron and steel.

This course includes a study of foundry practice, a study of different types of patterns, and the making of several patterns. Instruction is by lectures and text-books, as well as by practice in pattern making.

A series of lectures on the manufacture of iron and steel is given in this course. (3).

3. **Machine Work.** A study of the main principles of modern machine shop practice.

The student is taught the construction and use of machine tools, the making and grinding of cutting tools, and the proper speed for them under varying conditions. (2).

4. **Advanced Machine Work.** A study of the details of the design and construction of machine tools. This course is intended for students desiring to specialize in machine work.

The students, as a class, design and build a certain number of machines of some simple type.

The course must be preceded by 1a; 2b and 3, hours to be arranged.

5a. **Shop Management.** A lecture and reading course on the conduct of the office and factory of an industrial plant. The course must be preceded by 1a, 2b and 3. Hours to be arranged.

6b. **Plants and Processes.** A course in layout and arrangement of plants for different engineering works.

The course must be preceded by 1a, 2b and 3. Hours to be arranged.

Mechanical Drawing and Descriptive Geometry.

Assistant Professor RODHOUSE; Mr. WELCH; Mr. DAVIDSON.

Instruction is given to all regular Engineering students in the principles of geometrical and mechanical drawing and in freehand sketching. A large amount of time is devoted to practice in the drawing-room to enable the student to acquire the skill necessary for his future work. Drawing is continued also in connection with the student's professional studies.

1a. **Mechanical Drawing.** Selected geometrical problems, shading, and sectioning; mechanical lettering, plain free-hand lettering, and elementary machine drawing. (3).

2b. **Descriptive Geometry.** Orthographic projections, problems relating to points, lines, and planes. Representation of surfaces, their tangencies, intersections and developments, with practical applications. Shades and shadows. Isometric, cabinet, and perspective views. (3).

3a. **Stereotomy.** Problems in stone-cutting; drawings for masonry structures. Isometric, cabinet, and perspective drawing. (2).

4b. **Machine Drawing.** Assembly drawings and tracings are made from specially prepared sketches of details for the purpose of familiarizing the student with conventions used in engineering practice. The parts of complete machines of approved design are then sketched free-hand and the dimensions given on the sketches. Working drawings, assembly and details, are made from these sketches without further reference to the parts. Blue prints are made by each student from his own tracings.

5a. **Topographic Drawing.** Topographic signs; map drawing. (1).

6. **Architectural Drawing.** Elements of mechanical drawing, use of instruments, plain free-hand lettering, projections, drawing of the orders, plans and elevations in cottage design. Shades and shadows, perspective, and free-hand sketching of architectural details. Elective.

7b. **Advanced Lettering.** Free-hand and mechanical lettering with the analysis and construction of standard plain and ornamental alphabets. Their application in the design of titles for maps, charts, and engineering drawings. Elective.

Astronomy.

Courses in Astronomy for Engineering students are announced on pages 135-136.

Chemistry.

Courses in Chemistry for Engineering students are announced on pages 138-140.

Economics.

Courses in Economics for Engineering students are announced on pages 143-144.

English.

Courses in English for Engineering students are announced on pages 148-150.

Mathematics.

Courses in Mathematics required of Engineering students are announced on pages 167-172.

Physics.

Courses in Physics for Engineering students are announced on pages 173-180.

DEPARTMENT OF JOURNALISM.

There was established in the University in 1906 a Department of Journalism, co-ordinate with the Departments of Law, Medicine, Education and other professional schools. During 1907-07 and 1907-08 occasional lectures on Journalism were given. Beginning September, 1908, regular courses leading to a degree will be offered. The Department will be provided with laboratory equipment for the issuing of a daily newspaper. Entrance requirements for the School of Journalism will be the same as for the College of Arts and Science. See pages 71-81.

Announcement of the courses to be offered and of the Faculty appointed will appear in a separate bulletin. This bulletin will be mailed upon request to the Dean of the Department of Journalism, Columbia, Missouri.

MISSOURI STATE MILITARY SCHOOL.

JOSEPH FRAZIER, Captain 14th U. S. Infantry,
Professor of Military Science and Tactics, and Commandant of Cadets.

Appointment of State Cadets:

The following extracts from the Revised Statutes, 1899, of Missouri (section 10561-6, inclusive, as amended in 1907), will be of interest to those who desire to receive appointment as cadets:

"The Military Department of the University of the State of Missouri, as organized under section 1225, Revised Statutes of the United States, and section 10507, Revised Statutes of Missouri, 1899, is created the Missouri State Military School.

The corps of cadets of the Missouri State Military School shall consist of appointees of the Governor, Senators and Representatives, and of such students as may be required by the University authorities to take Military training, and of such students as may voluntarily enter such school. All appointments under this section shall be for the term of two years. The Governor of Missouri shall have power to appoint ten cadets from the State at large, and each Senator and Representative of the General Assembly of Missouri three cadets from his district, on or before the first day of August of each year: *Provided,* that if there shall be no qualified applicants for such cadetships in any such district or districts by the first day of August in any such year, such appointment or appointments may be made from any other district in this State; *And Provided,* that in case of death, resignation or expulsion of any cadet from the University, the Governor, Senator or Representative who made the appointment or their successors may fill such vacancies at any time. All appointees under this section shall pass the required examination for admission to the University.

"Cadets receiving instruction, as provided in the preceding section, shall be matriculated in all Academic departments, and in the College of Agriculture and Mechanic Arts of the University, free from tuition and other fees.

"The corps of cadets, as provided in the preceding sections, shall have the military organization prescribed for the National Guard of the State and be reckoned a part thereof, and as such entitled to all

such provisions as are or may hereafter be made for the National Guard of Missouri.

"The military government and discipline of the cadets shall be prescribed by regulations prepared by the Faculty of the University and approved by the Governor of the State. The officers of the corps of cadets shall be appointed and commissioned by the Governor of the State, upon the recommendation of the Faculty of the University, and shall have the power conferred by said regulations.

"Cadets shall be individually responsible for all State property issued directly to them, and shall constitute a guard for the safe-keeping and preservation of all University property."

Requirements for Admission:

No cadet will be received who is less than five feet, one inch in height, or who is in any way physically disqualified for military service, or who has not been duly matriculated in some other Department of the University.

All male students of the University not physically disqualified will be allowed to enroll themselves as voluntary cadets. A copy of the regulations for the government of the cadets is given to each cadet upon his entrance into the Missouri State Military School. Cadets should report by September 14, if possible. Vacancies may be filled at the discretion of the Senators and Representatives.

Required Work:

Beginning with the regular session of 1908-9, all students in the regular session of the University at Columbia, belonging to the Freshman (or First year Class) in any Department, shall be enrolled in either the Military Department or in the Department of Physical Training, and shall be required to take the regular course therein prescribed for one hour's credit a semester for that year; provided that a Committee shall be authorized to excuse from compliance with this rule any student who is physically disqualified or any student for whom the University may not be able to provide adequate instruction or equipment for physical training, and also any student who is actually compelled to use the time required for compliance for the purpose of supporting himself; provided further that these regulations shall not apply to any student in any Department who has completed the equivalent of one (1) year's work in the College of Arts and Science; and provided, further, that these regulations shall not apply to any student in any department who has completed the equivalent of one year's work in Military Science and Tactics in an accredited Military School.

Equipment and Supplies:

Four hundred "Krag-Jorgensen" rifles, one Gatling gun, cal. 45, with full equipment; two 3.2 inch rifled field guns (breech loaders), with carriages and implements, twenty-five sabres, and a suitable amount of ammunition and target materials are furnished by the United States. The State supplies ammunition, camp equipage, utensils, etc. The University supplies instruments and instruction for the band.

Uniforms:

Cadets wear but one style of uniform, known as the undress or fatigue uniform. Uniforms must be worn at all military exercises, and tailor-made uniforms are supplied to volunteer cadets at a contract price (about $13.00.) The State usually furnishes uniforms to regularly appointed cadets, or the major part thereof, free of cost (one entire uniform every year to each appointed cadet, depending upon amount of appropriation by Legislature).

Regulations:

Cadet regulations prescribe that military drill, etc., shall be held at least three hours a week, one of which shall be for theoretical and two for practical instruction. The regulations require, also, whenever the means of the University permit it, an annual encampment of from eight to ten days, during which the instruction is entirely military and practical. The expenses of the encampment are borne by the University. A copy of the regulations may be secured at the Commandant's office. Every cadet must strictly conform to these rules.

COURSE OF INSTRUCTION.

First Year.

Practical instruction in the schools of the soldier, company, battery, and battalion (infantry), and extended order.

Practical instruction in rifle-firing, 100, 200, 300, 400, and 500 yards.

Practical instruction in duties of camp, embracing guard duty, etc.

Recitations in infantry drill regulations through school of the company, ceremonies of guard mounting, dress parade, inspection, review, muster, and extended order.

Recitations in guard duty and cadet regulations.

Recitations in artillery tactics, sabre drill, etc.

SECOND YEAR.

Practical instruction in the schools of the company and battalion, and extended order.

Practical instruction in the service of field-guns (foot battery), with mechanical manoeuvres.

Practical instruction in the service of machine guns.

Practical instruction in rifle-firing, 100, 200, 300, 400, and 500 yards.

Practical instruction in the duties of camp life, embracing guard duty, etc.

Practical instruction in military signaling.

Recitations in infantry drill regulations, school of battalion.

Recitations in artillery tactics, manual of the piece dismounted, etc.

Recitations in Military Science:

Lectures are given by the commandant on army organization, the Army of the United States, army regulations, court martial, and military law, the customs of war, security and information (including out-posts, advance and rear guards, patrols, reconnoissances, orientation, and map reading), guard duty, castrametation, field service, field fortification, rifle-firing, and target practice.

Recitations are held during the winter months, when the weather is unfit for drill. All cadets not included in the two preceding classes are required to takee a short review of the previous work.

Certificate of Proficiency:

To have passed through the entire course does not entitle a cadet to receive a certificate of proficiency in Military Science and Tactics, but it is the rule now adopted in the University that the certificate will be issued to every cadet, state or volunteer, who takes the entire course and attains a grade of at least 70 per cent in *every examination* given during the two years in Military Science and Tactics.

Credit for Work in Military Department:

Beginning with 1905-06, Military Science and Tactics may be offered as an elective for undergraduates in the following departments and schools of the University: Academic Department, Teachers College, the School of Agriculture, and the School of Engineering, on the same basis and subject to the same conditions that are provided under the existing rules of the Academic Department for the election of Physical Training, provided that the total credit for Mili-

tary Science and Tactics, and Physical Training shall not exceed four (4) hours' credit.

For Military Prizes, see page 108.
For Cadetship, see page 110.

PROVISIONAL REGIMENT.

Organization.

Staff.

Commandant.....Captain Joseph Frazier, 14th U. S. Infantry
Colonel, Commanding Regiment.....J. E. Price
Lieutenant-Colonel .....R. S. Cole
Major, Commanding First Battalion.....H. P. Rusk
Major, Commanding Second Battalion.....H. G. Martin
Major, Commanding Third Battalion.....C. B. Smith
Regimental Adjutant .....E. E. Tupes
Regimental Quartermaster .....F. E. Ross
Regimental Commissary .....F. G. Hechler
Battalion Adjutant.....C. J. Sloop
Battalion Adjutant .....A. H. Kiskaddon
Battalion Quartermaster and Commissary.....O. W. Harrah
Battalion Quartermaster and Commissary.....G. D. Kelly
Battalion Quartermaster and Commissary.....W. L. Driver
Regimental Sergeant Major.....S. E. Lawrence
Battalion Sergeant Major.....F. C. Noon
Battalion Sergeant Major.....J. W. Currey

Company "A."

Captain.....E. W. Robinson
First Lieutenant .....H. A. Henley
Second Lieutenant.....C. E. McAdam

Company "B."

Captain .....E. L. Lusk
First Lieutenant .....R. E. Talbert
Second Lieutenant .....H. G. Hunter

Company "C."

Captain.....H. T. Livingston
First Lieutenant .....J. D. Hill
Second Lieutenant .....H. Elliott

Company "D."

Captain.....D. H. Doane
First Lieutenant .....M. E. Fawks
Second Lieutenant .....A. Scott

Company "E."

Captain.....G. H. Colvin
First Lieutenant .....A. L. Oliver
Second Lieutenant .....A. V. Bayley

Company "F."

Captain.....L. J. Harris
First Lieutenant .....R. E. Riddle
Second Lieutenant .....B. O. Brown

Company "G." (Artillery Company.)

Captain.....E. R. Myer
First Lieutenant .....R. B. Kinkead
Second Lieutenant.....A. H. Roberts

Band.

Captain and Bandmaster.....B. H. Ozment
Second Lieutenant and Drum Major.....C. A. Rodkwood

Total Enrollment to date during year 1907-08..... 367

Those cadets are appointed to office who show ready obedience, zeal and capacity in the discharge of military duty. The Governor of Missouri issues commissions to those entitled by their battalion rank to receive them.

State Commissions:

The Revised Statutes of Missouri, 1899, provide as follows:

"Chapter 130. Section 8601. Every graduate of any college in the State of Missouri in which military instruction is regularly given by an officer of the United States Army detailed for that purpose, who shall have received military instruction during a course of four years, shall be entitled to a commission as brevet second lieutenant of the National Guard of Missouri, subject to such physical examination as to ability as the commander-in-chief may from time to time prescribe: Provided, that application for such commission be made within one year after graduation from such college, and that such applicant shall be at the time a citizen of the State of Missouri."

UNIVERSITY EXTENSION WORK.

OFFICERS OF ADMINISTRATION AND INSTRUCTION.

RICHARD HENRY JESSE, LL. D.,
President of the University.

ALBERT ROSS HILL, A. B., Ph. D., LL. D.,
President-elect of the University.

JUNIUS LATHROP MERIAM, A. B., A. M., Ph. D.,
Professor of the Theory and Practice of Teaching, and Director of the University Extension Work.

EARL RAYMOND HEDRICK, A. B., A. M., Ph. D.,
Professor of Mathematics.

GUY MONTROSE WHIPPLE, A. B., Ph. D.,
Acting Professor of Educational Psychology.

JESSE HARLIMAN COURSAULT, A. B., A. M., Ph. D.,
Assistant Professor of the History and Philosophy of Education.

THOMAS JAMES RILEY, A. B., A. M., Ph. D.,
Assistant Professor of Sociology.

CARL CONRAD ECKHARDT, Ph. B., A. M.,
Instructor in History.

MARLOW ALEXANDER SHAW, A. B., Ph. D.,
Instructor in English.

EDWARD ALLEN THURBER, A. B., A. M.,
Instructor in English.

One or more of the following courses are offered in each of the University Extension Centers. These courses are open to all persons who are graduates of good high schools or have received equivalent training, whether engaged in teaching or not. A Registration fee of $5.00 is required, as with all students who enter the College of Arts and Science or Teachers College at Columbia. Incidental expenses, such as purchase of text-books, outlines, etc., must be borne by those taking the courses. Work satisfactorily completed in these courses will be credited as corresponding courses at the University.

Education.

Assistant Professor COURSAULT; Acting Professor WHIPPLE.

4b. **Educational Psychology.** This course is designed to present the main facts concerning the nature and development of the mind during childhood and youth, with special reference to the meaning of these facts to the teacher. It aims to better prepare teachers for class-room work and for the study of fundamental problems in education. *Lectures, assigned reading and discussions twice a month. Three hours credit for the year.*

6. **History of Education.** This course is designed to give a deeper insight into present educational aims and methods by tracing historically their origin and development. An effort will be made to present the more important facts in the history of educational practice and to interpret them so as to reveal their deeper significance in educational progress. *Lectures, assigned reading and discussions twice a month. Three hours credit for the year.*

English.

Dr. SHAW; Mr. THURBER.

3b. **English Literature, General View.** A survey of English literature from Milton to the present, with emphasis on interpretation rather than on historical development. Special attention will be given to those authors more commonly read in schools, such as Burns, Wordsworth, and Tennyson. Practical suggestions for the study and teaching of literature will be made. Text books: Pancoast's *Introduction to English Literature,* and *Standard English Poems. Lectures and discussions twice a month. Three hours credit for the year.*

10. A second course, more detailed and interpretative in character, will be given, if desired, on some one or more authors in English literature. Shakespeare, Tennyson and Browning, or the general period of Victorian poetry, will be selected, according to the wishes of those taking the course. *Lectures and discussions twice a month. Three hours credit for the year.*

History.

Mr. ECKHARDT; Dr. STEPHENS.

1. **History of Western Europe.** This course consists of a general survey of the political, institutional, social and cultural aspects of European History from the passing away of the Roman Empire in the West to the present time. Special emphasis will be laid on the unity and continuity of the historical development of Europe and on the general progress of the nations in civilization and culture. Lectures, discussions, and occasional written tests will be the method of conducting the course. The manual followed will be Robinson's *Introduction to the History of Western Europe,* and the topics will be found outlined, with collateral readings and review questions, in Trenholme's *Syllabus for the History of Western Europe.* Students should procure as a source reader and companion to the text and syllabus Robinson's *Readings in European History (Abridged edition). Lectures and discussions twice a month. Three hours credit for the year.*

3. **American History and Government.** A series of lectures and discussions covering the Colonial and United States periods in their social, political, and institutional aspects. The aim of the instructor will be to bring out those influences moulding and developing American nationality. As a guide and manual in the course McLaughlin's *History of the American Nation* will be used, but students will be expected to read parallel accounts in other standard histories. Occasional written reports may be called for, and the knowledge of students working for credit will be tested by written examination. *Lectures and discussion twice a month. Three hours credit for the year.*

4. **Nineteenth Century Topics.** An advanced lecture course, with assigned and suggested readings, dealing with the political, social, industrial, and intellectual development of Continental Europe in the nineteenth century. Students should have as a manual and text-book Seignobos' *Political History of Europe Since* 1814 (trans. by Macvane). Written reports may be called for on the reading and lectures, and students working for credit will take a final written examination. *Lectures will be given twice each month. Three hours credit for the year.*

Sociology.

Assistant Professor RILEY.

10a. **Modern Charity.** A study of the origin, nature, and treatment of the dependent and defective classes. Among the topics treated are the causes of poverty, the causes of degeneracy, the principles of relief, public out-door relief, organized charity, almshouse administration, the treatment of the vagrant, the care of dependent children, the care of the insane, the feeble-minded, the epileptic, the education of the blind and the deaf. Text-book work and papers by the class on special subjects for investigation. *Three hours credit. Meetings to be arranged.*

12. **Preventive Philanthropy.** An intensive study of some specific problems in preventive work, such as sanitation and public health, the housing problem in cities, parks and playgrounds, the promotion of thrift, social settlements, the increased use of public school property, compulsory education, child labor legislation, the juvenile court, etc. The work will consist of lectures, library work and essays. *Three hours credit. Meetings to be arranged.*

Mathematics.

Professor HEDRICK.

1b. **Plane Analytical Geometry.**

ORGANIZATION.

In 1870 the General Assembly, in accepting the donation by the general government of lands for educational purposes, established an Agricultural College and School of Mines and Metallurgy, "the leading object of these colleges," being "to teach such branches as are related to agriculture and mechanic arts and mining, including military tactics, and without excluding other scientific and classical studies, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." The statutes fix the status of the School of Mines and Metallurgy as a Department of the State University. Its affairs are under the immediate supervision of the Executive Committee, consisting of three members of the Board of Curators of the University.

ADMISSION.

Conditions for admission the same as for the Department of Engineering at Columbia. See pages 71-81.

LOCATION.

The School of Mines and Metallurgy is situated at Rolla, the county seat of Phelps county, on the St. Louis and San Francisco R. R., approximately half way between St. Louis and Springfield.

Rolla is on the crest of the Ozark uplift. It has an elevation of 1,140 feet above the sea level, and enjoys an agreeable and notably healthful climate. Its position on a great transcontinental railway system renders it readily accessible from all quarters. It is within easy reach of the lead and zinc districts of the southwest, and of the lead and iron region of the southeast, where opportunities to observe processes of mining and smelting the latter ores are close at hand. The numerous and varied smelting and chemical plants in and about St. Louis likewise offer good opportunities for the study of processes.

CAMPUS AND ATHLETIC FIELD.

The grounds of the School of Mines and Metallurgy are situated in the highest part of the City of Rolla, and are over twenty-seven acres in extent.

The Campus contains beautiful lawns, groves of native oak, and is

adorned and surrounded by hundreds of ornamental shade trees.

The Athletic Field has a good baseball diamond, a football grid-iron, tennis courts, a hundred twenty-yard cinder hurdle and sprinting track.

BUILDINGS.

The buildings are nearly all substantial brick structures, well ventilated and lighted, and heated by steam.

There are nine buildings located on the enclosed campus.

Mining and Metallurgical Building.
Chemical Laboratory.
Museum and Geological Survey.
Workshop.
Director's Residence.
Mechanical Building.
Norwood Hall, Engineering Building.
Heating and Power Plant.
Ore Dressing Building.

LIBRARY.

The Library contains 6,000 carefully selected volumes. Good collections of works on Engineering, Mathematics, Chemistry, Physics, Mining, Metallurgy, Geology and Mineralogy, afford to students in these departments an opportunity to pursue an extended course in reading in connection with their class work. The Library also contains the standard works in English and American poetry, fiction, biography and history. It is well provided with encyclopedias and works of general reference. It is open and in charge of the Librarian from 9 a. m. to 12 m., from 1 p. m. to 5 p. m., and from 7 to 9 p. m. During these hours books may be taken out, and Library room used for reading and study.

The Library has recently been moved to Norwood Hall, where it is installed on the first floor in the west end of the building, and provided with a large, well lighted and newly furnished Reading Room.

EXPENSES.

Laboratory Fees:

The Board of Curators, at a meeting held in December, 1898, voted to make tuition free, and to abolish the entrance fees which

have hitherto been charged. The fixed charges remaining are: A Library fee of $5 a year, payable upon entrance, a laboratory fee to cover the cost of gas and supplies, $3 a term for all courses except Metallurgy and Special Mining, for which courses the fee is $10; a laboratory fee in Qualitative Analysis of $7.50 a term to cover the cost of general supplies and gas; a laboratory fee for Quantitative Analysis and other Senior and Junior Chemical Laboratory work, $1.75 a term; a fee of $2.50 a term to cover the cost of supplies for Shop Work; a fee of $2 a term to cover cost of supplies in Forge Work; a laboratory fee of $12.50 a term to cover the cost of supplies in Assaying; a laboratory fee of $3 a term to cover the cost of supplies in Mineralogy; a fee of $5 a term for Senior Metallurgy Laboratory; a fee of $2.50 a term for Mining Machinery Laboratory.

The above charges are made on the basis of the *actual* average cost a student for supplies in the respective courses, at wholesale rates.

Excursion Expenses:

The cost of field excursions will average about $35 a year.

Contingent Deposits:

Deposits, to cover the cost of extra supplies, damage to apparatus, etc., are required of the different classmen as follows: Freshmen, $10; Sophomores, Juniors, and Seniors, $15. These deposits must be renewed if at any time exhausted, and at the end of the school year whatever sum may remain to the credit of the depositor is returned to him.

No distinction, in admission or charges, is made between residents of this State and those of any other State or country.

Living Expenses:

The cost of living in Rolla is low. Board, including lodging, meals, fuel, and lighting, may be had in private residences or at the hotels for from $18.00 to $20.00 a month.

The expenses of many students for the entire school year do not exceed $225.00, and $250.00 will cover, in a reasonable manner, the fees, and the cost of books, stationery, board, lodging, fuel, lights, and washing. The cost of field excursions is not included in the above estimate.

ATHLETICS.

The School encourages rational athletics. Occasional privileges are granted to athletic teams, but prolonged absences from work are not permitted.

An athletic field has been enclosed and graded for baseball, football, and other games, and an ample number of tennis courts have been laid out, and are maintained in good order. A general athletic association exists among the students, also football and baseball teams, and a tennis club.

Athletic Fee:

Each student is requested to pay a fee of $5.00 to the Athletic Association of the school.

TERM REPORTS.

Reports are sent to the parents or guardian of every student at the close of each term, showing the student's grade in scholarship, and giving such other information in regard to his progress, attendance, etc., as may be thought to be of interest. The attention of parents and guardians is particularly called to these reports.

COURSES AND DEGREES.

The School of Mines and Metallurgy offers four full courses leading to the degree of Bachelor of Science (B. S.), as follows:

I.—Mining Engineering; II.—Civil Engineering; III.—Chemistry and Metallurgy; IV.—General Science; besides several special shorter courses.

The further degree of Engineer of Mines (E. M.), Civil Engineer (C. E.), Metallurgical Engineer (Met. E.), or Master of Science (M. S.), will be conferred on candidates who, after receiving the first degree from this University or one of equivalent standing, have spent in the same course one year (at least ten hours a week) in graduate work in the University, or three years in professional practice and in graduate work *in absentia*. The candidate must pass an examination on his graduate work and present a satisfactory thesis.

It is the object of the instruction at this institution, first to lay a broad and solid foundation in the way of acquaintance with principles and theory, and to supplement this, wherever possible, by the discipline of practical application in the laboratory and field. Lectures and

recitations are arranged for the morning hours, leaving the afternoons for laboratory and field work. The practical work is designed to illustrate and impress principles, to familiarize the student with the use of instruments with which he is to be concerned in the work of his profession, and to afford an opportunity for original investigation. "Head-work" and "hand-work" go together. What is taught orally in the lecture room is applied and illustrated in the laboratory.

Special Courses:

In addition to the four regular courses leading to degrees, mentioned above, a number of shorter courses are also offered. They are: Chemistry and Assaying, Mining, Surveying, and Electricity. They have been planned for the benefit of those who, for various legitimate reasons, are unable to take the regular four year courses.

The course in Assaying will require two years' work, although mature students, who have some knowledge of Chemistry, may complete it in one year. (For description, see page 340.)

The purpose of the course in Surveying is to develop competent land and mining surveyors and fair draughtsmen. The essentials of it are a thorough knowledge of algebra, geometry, trigonometry, surveying, field practice, and drawing. One school year and the first term of a second, will be required for the completion of this course.

A two years' course in Mining is offered to students, especially such as have had some practical experience in mining, who may wish to fit themselves for holding important positions about mines or in ore-dressing plants, but who are unable, on account of the lack of preparation or of time, to take the full course in Mining Engineering. Besides Mathematics, this course includes General Chemistry, Assaying, Mineralogy, Geology, Mining, Surveying, and English.

A course in Electricity is offered to furnish the students with the theory of Electricity, and acquaint him with its application in the arts. This subject is of prime importance to every engineer, especially to the Mining Engineer, since Electricity has become such an important factor in mining operations.

For outline of Special Courses, see page 348.

EXCURSIONS.

Voluntary:

A summer excursion is offered for students who have passed their Junior work, to the deep mining district of the Rocky Mountains or Lake Superior. Geological phenomena, mines and ore dressing and metallurgical plants will be the subjects of study.

Required:

First. At the close of the Sophomore year, three weeks of summer field work for practice in topography, lines of communication, etc., will be required of students in Civil Engineering. This work will be carried on in the vicinity of Rolla.

Second. At the close of the Junior year, students in Mining and Metallurgical Engineering will make a four weeks' excursion to Southeast and Southwest Missouri, for the purpose of practice in Mine Surveying and of study in Economic Geology, Mining, and Ore Dressing.

Third. An excursion by the Senior class to Steelville, Sligo, and Palmer, for the purpose of studying iron and lead deposits and methods of reduction. This excursion will take place during the latter part of the Senior year.

Fourth. An excursion by the Senior class to Herculaneum, St. Louis, Granite City, and the coal fields of Illinois. This excursion will take place in the latter part of the Senior year.

COURSE I.—MINING ENGINEERING.

FRESHMAN YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Higher Algebra	5	0	0
Trigonometry	0	5	5
Descriptive Geometry	0	2	2
General Chemistry	5	5	4
English	5	5	5
Elementary Mining	2	0	0
Mineralogy	0	0	2
Laboratory Work:			
General Chemistry	3	3	3
Drawing, Mechanical	6	6	6
Descriptive Geometry Drawing	0	3	3
Shop Practice	6	6	0
Mineralogy Laboratory	0	0	6

COURSE I.—MINING ENGINEERING.—Continued.

SOPHOMORE YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Analytic Geometry	5	0	0
Calculus	0	5	5
Spanish, German or French	5	5	5
English and American Literature	1	1	1
Mineralogy	2	0	0
Lithology	0	2	0
Plane Surveying	3	0	0
Mine Surveying	2	0	0
Mining	0	2	3
Elementary Mechanics	0	2	0
General Physics	0	0	5
Qualitative Analysis	0	2	0
Laboratory Work:			
Forge Shop or Machine Drawing	6	6	6
Mineralogy	6	6	0
Lithology	0	3	0
Surveying Field Practice	6	0	0
Qualitative Analysis	0	6	6
Physics	0	0	6
Topography, one week, between the Sophomore and Junior Years.			
JUNIOR YEAR.			
Lectures and Recitations:			
General Physics	5	0	0
Thermodynamics	0	5	0
Mechanics of Engineering	5	0	0
Mechanics of Materials	0	5	0
Hydraulics	0	0	5
General Geology	5	3	5
Quantitative Analysis	2	0	0
Assaying	2	0	0
Metallurgy	0	3	3
Masonry	0	2	0
Lines of Communication	0	0	2
Elements of Ore Dressing	0	0	3

COURSE I.—MINING ENGINEERING—Continued.

JUNIOR YEAR—CONT.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Laboratory Work:			
Physics	6	0	0
Steam	0	3	0
Assaying	6	6	0
Quantitative Analysis	6	9	0
General Geology	0	3	6
Drawing and Graphics	0	0	6
Lines of Communication	0	0	3
Hydraulics	0	0	3
SENIOR YEAR.			
Lectures and Recitations:			
Ore Dressing	4	3	0
Ore Dressing Memoirs	0	0	1
Mining Law and Contracts	2	0	0
Mine Management	0	0	2
Economic Geology	3	3	5
Metallurgy	4	4	4
Metallurgy Conference	0	1	0
Frame Structures	2	0	0
Cement and Concrete Structures	0	0	2
Dynamo Machinery	3	0	0
Alternating Current Machinery	0	5	0
Electrical Transmission	0	0	3
Compressed Air	0	2	0
Hydraulic Motors and Pumps	0	0	1
Laboratory Work:			
Ore Dressing	6	0	3
Geology	3	0	3
Metallurgy	0	7	0
Metallography	0	3	0
Mining Problems	0	0	3
Dynamo Machinery	6	0	0
Alternating Current Machinery	0	6	0
Electrical Problems	0	0	3
Graphics	3	0	0
Compressed Air	0	3	0
Thesis	0	0	6

COURSE I.—MINING ENGINEERING.—Continued.

SOPHOMORE YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Analytic Geometry	5	0	0
Calculus	0	5	5
Spanish, German or French	5	5	5
English and American Literature	1	1	1
Mineralogy	2	0	0
Lithology	0	2	0
Plane Surveying	3	0	0
Mine Surveying	2	0	0
Mining	0	2	3
Elementary Mechanics	0	2	0
General Physics	0	0	5
Qualitative Analysis	0	2	0
Laboratory Work:			
Forge Shop or Machine Drawing	6	6	6
Mineralogy	6	6	0
Lithology	0	3	0
Surveying Field Practice	6	0	0
Qualitative Analysis	0	6	6
Physics	0	0	6
Topography, one week, between the Sophomore and Junior Years.			
JUNIOR YEAR.			
Lectures and Recitations:			
General Physics	5	0	0
Thermodynamics	0	5	0
Mechanics of Engineering	5	0	0
Mechanics of Materials	0	5	0
Hydraulics	0	0	5
General Geology	5	3	5
Quantitative Analysis	2	0	0
Assaying	2	0	0
Metallurgy	0	3	3
Masonry	0	2	0
Lines of Communication	0	0	2
Elements of Ore Dressing	0	0	3

COURSE I.—MINING ENGINEERING—Continued.

JUNIOR YEAR—CONT.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Laboratory Work:			
Physics	6	0	0
Steam	0	3	0
Assaying	6	6	0
Quantitative Analysis	6	9	0
General Geology	0	3	6
Drawing and Graphics	0	0	6
Lines of Communication	0	0	3
Hydraulics	0	0	3
SENIOR YEAR.			
Lectures and Recitations:			
Ore Dressing	4	3	0
Ore Dressing Memoirs	0	0	1
Mining Law and Contracts	2	0	0
Mine Management	0	0	2
Economic Geology	3	3	5
Metallurgy	4	4	4
Metallurgy Conference	0	1	0
Frame Structures	2	0	0
Cement and Concrete Structures	0	0	2
Dynamo Machinery	3	0	0
Alternating Current Machinery	0	5	0
Electrical Transmission	0	0	3
Compressed Air	0	2	0
Hydraulic Motors and Pumps	0	0	1
Laboratory Work:			
Ore Dressing	6	0	3
Geology	3	0	3
Metallurgy	0	7	0
Metallography	0	3	0
Mining Problems	0	0	3
Dynamo Machinery	6	0	0
Alternating Current Machinery	0	6	0
Electrical Problems	0	0	3
Graphics	3	0	0
Compressed Air	0	3	0
Thesis	0	0	6

COURSE I.—MINING ENGINEERING—Continued.

SENIOR YEAR—CONT.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
MINING GEOLOGY OPTION.			
Lectures and Recitations:			
Economic Geology	3	3	5
Petrography	3	3	2
Geology of the United States	3	0	0
Structural and Metamorphic Geology	0	0	3
Paleontology or Metallurgy	4	4	0
Historical Geology or Metallurgy	0	0	4
Geological Conference	0	2	0
Ore Dressing	4	3	0
Mining Law and Contracts	2	0	0
Methods of Prospecting and Mine Development	0	3	0
Mine Management	0	0	2
Elective Geology	0	0	3
Laboratory Work:			
Geology	3	6	6
Petrography	9	6	6
Ore Dressing	6	0	0
Paleontology or Metallurgy	0	6	0
Thesis	0	0	6
MINING MACHINERY OPTION.			
Lectures and Recitations:			
Ore Dressing	4	3	3
Ore Dressing Memoirs	0	0	1
Mining Machinery	0	4	5
Dynamo Machinery	3	0	0
Alternating Current Machinery	0	5	0
Electrical Transmission	0	0	3
Compressed Air	0	2	0
Hydraulic Motors and Pumps	0	0	1
Mine Management	0	0	2
Mining Law and Contracts	2	0	0
Economic Geology	3	0	0
Metallurgy	4	4	0
Metallurgy Conference	0	1	0
Frame Structures	2	0	0
Cement and Concrete Structures	0	0	2

COURSE I.—MINING ENGINEERING—Continued.

SENIOR YEAR—CONT.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Laboratory Work:			
Mining Machinery	3	9	0
Mining Machinery Problems	0	0	6
Graphics	3	0	0
Dynamo Machinery	6	0	0
Alternating Current Machinery	0	6	0
Electrical Problems	0	0	3
Ore Dressing	6	0	3
Metallurgy	0	4	0
Compressed Air	0	3	0
Thesis	0	0	6
ORE DRESSING OPTION.			
Lectures and Recitations:			
Ore Dressing	4	4	3
Ore Dressing Memoirs	0	0	1
Mining Law and Contracts	2	0	0
Mine Management	0	0	2
Metallurgy	4	4	4
Metallurgy Conference	0	1	0
Economic Geology	3	3	5
Dynamo Machinery	3	0	0
Alternating Current Machinery	0	5	0
Electrical Transmission	0	0	3
Compressed Air	0	2	0
Frame Structures	2	0	0
Hydraulic Motors and Pumps	0	0	1
Laboratory Work:			
Ore Dressing	9	0	6
Ore Dressing Problems	0	3	3
Graphics	3	0	0
Dynamo Machinery	6	0	0
Alternating Current Machinery	0	6	0
Electrical Problems	0	0	3
Metallurgy	0	7	0
Compressed Air	0	3	0
Thesis	0	0	6

COURSE II.—METALURGY AND CHEMISTRY.

FRESHMAN YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Algebra	5	0	0
General Chemistry	5	5	4
English	5	5	5
Descriptive Geometry	0	2	2
Elementary Mining	2	0	0
Mineralogy	0	0	2
Qualitative Analysis	0	2	0
Trigonometry	0	5	5
Laboratory Work:			
General Chemistry	9	0	0
Mechanical Drawing	6	6	6
Qualitative Analysis	0	9	6
Mineralogy	0	0	6
Descriptive Geometry	0	3	3
SOPHOMORE YEAR.			
Lectures and Recitations:			
Analytic Geometry	5	0	0
Calculus	0	5	5
German, French or Spanish	5	5	5
Elementary Mechanics	0	2	0
English and American Literature	1	1	1
General Physics	0	0	5
Lithology	0	2	0
Quantitative Analysis	2	2	2
Surveying, Plane	3	0	0
Mineralogy	2	0	0
Laboratory Work:			
Field Practice	6	0	0
Quantitative Analysis	6	9	12
Mineralogy	6	6	0
Lithology	0	3	0
Phy ics	0	0	6

COURSE II.—METALLURGY AND CHEMISTRY—Continued.

JUNIOR YEAR—CONT.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Assaying	2	0	0
General Geology	5	3	5
General Physics	5	0	0
Mechanics of Engineering	5	0	0
Chemical Memoirs	1	0	0
Electrochemistry	0	2	3
Mechanics of Materials	0	5	0
Hydraulics	0	0	5
Elements of Ore Dressing	0	0	3
Metallurgy	0	3	3
Physical Chemistry	0	2	0
Thermodynamics	0	5	0
Laboratory Work:			
Assaying	6	6	0
Geology	0	3	0
Field Geology	0	0	6
Physics	6	0	0
Quantitative Analysis	6	0	0
Physical Chemistry	0	3	0
Electrochemistry	0	3	6
Metallurgy	0	0	3
Hydraulics	0	0	3
Steam	0	3	0
SENIOR YEAR.			
Lectures and Recitations:			
Alloys	2	0	0
Alternating Current Machinery	0	5	0
Dynamo Machinery	3	0	0
Electrometallurgy	2	0	0
Contracts	2	0	0
Metallurgical Problems	1	0	1
Metallurgy	4	4	4
Ore Dressing	4	4	3
Compressed Air	0	2	0
Metallurgy Conference	0	1	0
Metallurgical Organization	0	3	0
Electrical Transmission	0	0	3
Memoirs, Chemical and Metallurgical	0	0	1
Hydraulic Motors and Pumps	0	0	1
Technical Chemical Analysis	0	0	1

COURSE II.—METALLURGY AND CHEMISTRY—Continued.

SENIOR YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Laboratory Work:			
Metallurgy and Electrometallurgy	6	0	0
Ore Dressing	9	0	6
Dynamo Machinery	6	0	0
Compressed Air	0	3	0
Alternating Currents	0	6	0
Metallurgy	0	7	0
Metallography	0	3	0
Electrical Problems	0	0	3
Technical Analysis (Chemical)	0	0	3
Thesis	0	0	6

COURSE III.—CIVIL ENGINEERING.

FRESHMAN YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Higher Algebra	5	0	0
General Chemistry	5	5	4
English	5	5	5
Descriptive Geometry	0	2	2
Elementary Mining	2	0	0
Trigonometry	0	5	5
Mineralogy	0	0	2
Laboratory Work:			
General Chemistry	3	3	3
Descriptive Geometry Drawing	0	3	3
Mechanical Drawing	6	6	6
Shop Practice	6	6	0
Mineralogy	0	0	6

COURSE III.—CIVIL ENGINEERING—Continued.

SOPHOMORE YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Analytic Geometry	5	0	0
Calculus	0	5	5
Spanish, German or French	5	5	5
English and American Literature	1	1	1
Elementary Mechanics	0	2	0
Plane Surveying	3	0	0
Mine Surveying	2	0	0
General Physics	0	0	5
Lines of Communication	0	0	2
Geodesy	0	3	0
Field Practice	9	0	9
Forge Shop or Machine Drawing	6	6	0
Geodesy and Computations	0	9	0
Physics	0	0	6
Topography	.....	.....	.....
JUNIOR YEAR.			
Lectures and Recitations:			
Astronomy	0	0	2
General Geology	5	3	5
Hydraulics	0	0	5
Mechanics of Engineering	5	0	0
Masonry	0	2	0
Mechanics of Materials	0	5	0
Metallurgy of Iron and Steel	0	0	3
General Physics	5	0	0
Lines of Communication	3	0	0
Thermodynamics	0	5	0
Roads and Pavements	0	0	2
Graphics	0	2	0
Laboratory Work:			
Drawing and Graphics	0	0	6
Hydraulics	0	0	3
General Geology	0	3	6
Field Practice	9	0	0
Engineering Laboratory and Graphics	0	12	0
Physics	6	0	0
Steam	0	3	0

COURSE III.—CIVIL ENGINEERING—Continued.

SENIOR YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Alternating Current Machinery	0	5	0
Bridges (Higher Structures)	0	5	0
Compressed Air	0	2	0
Dynamo Machinery	3	0	0
Economic Geology	3	0	0
Electrical Transmission	0	0	3
Estimates and Bidding	0	0	2
Framed Structures	2	0	0
Hydraulic Motors and Pumps	0	0	1
Irrigation	0	0	3
Masonry Design and Concrete Steel	0	0	5
Mining Law and Contracts	2	0	0
River and Harbor Improvements	0	0	2
Railway Economics	3	0	0
Sanitary Engineering	0	5	0
Water Supply	5	0	0
Laboratory Work:			
Dynamo Machinery	6	0	0
Alternating Current Machinery	0	6	0
Compressed Air	0	3	0
Designing	0	6	6
Graphics and Engineering Designs	9	0	0
Electrical Problems	0	0	3
Thesis	0	0	6

COURSE IV.—GENERAL SCIENCE.

FRESHMAN YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Higher Algebra	5	0	0
General Chemistry	5	5	4
English	5	5	5
Elementary Mining	2	0	0
German	0	4	4
Mineralogy	0	0	2
Trigonometry	0	5	5
Laboratory Work:			
Drawing	6	6	6
General Chemistry	3	3	3
Mineralogy	0	0	6
Elective	6	6	0
SOPHOMORE YEAR.			
Lectures and Recitations:			
German	5	5	5
English	5	5	5
Elementary Mechanics	0	2	0
Qualitative Analysis	0	2	0
Mineralogy	2	0	0
Elective	6	4	8
Laboratory Work:			
Qualitative Analysis	0	6	6
Mineralogy	6	6	0
Physics	0	0	6
Elective	9	6	3
JUNIOR YEAR.			
Lectures and Recitations:			
French or Spanish	5	5	5
General Geology	5	3	5
General Physics	5	0	0
Elective	3	10	8
Laboratory Work:			
General Geology	0	3	6
General Physics	6	0	0
Elective	9	12	9

SENIOR YEAR.

All Elective.

The selection of studies is subject to the approval of the Faculty.

Electives after the Sophomore year must be along one of the two lines—Physics and Mathematics, or Chemistry and Geology. Twenty-three hours recitation or eighteen hours recitation and five afternoons laboratory work constitute a course.

GRADUATE COURSE FOR ENGINEERS.*

FIRST YEAR.	Time in hours a week. 1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Mine Surveying	2	0	0
Geology	5	3	5
Mineralogy	3	0	0
Lithology	0	2	0
Qualitative Analysis	0	2	0
Assaying	2	0	0
Ore Dressing	0	0	3
Mining	0	2	2
Metallurgy	0	3	3
Elective	6	6	4
Laboratory Work:			
Mineralogy	12	6	0
Lithology	0	3	0
Geology	0	3	6
Qualitative Analysis	0	6	6
Assaying	0	0	9
Elective	3	3	0
SECOND YEAR.			
Lectures and Recitations:			
Compressed Air	0	2	0
Quantitative Analysis	2	0	0
Economic Geology	3	3	5
Metallurgy	4	4	4
Metallurgy Conference	0	1	0
Ore Dressing	4	3	0
Ore Dressing Memoirs	0	0	1
Mining Law and Contracts	2	0	0
Mine Management	0	0	2
Elective	3	5	5
Laboratory Work:			
Quantitative Analysis	6	9	0
Ore Dressing	6	0	3
Compressed Air	0	3	0
Geology	3	0	3
Metallography	0	3	0
Mining Problems	0	0	3
Thesis	0	0	6
Elective	3	3	3

*This two-year course is planned for graduates in Civil, Electrical, or Mechanical Engineering, who desire to work along mining lines. The degree, Mining Engineer, will be conferred on students who have received the Bachelor of Science Degree in Engineering, and who complete the two-year course as outlined

SPECIAL COURSE IN MINING, CHEMISTRY AND ASSAYING.

FIRST YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Higher Algebra	5	0	0
Trigonometry	0	5	5
English	5	5	5
General Chemistry	5	5	4
Qualitative Analysis	0	2	0
Elementary Mining	2	0	0
Mineralogy	0	0	2
Elements of Ore Dressing	0	0	3
Laboratory Work:			
General Chemistry	9	0	0
Qualitative Analysis	0	9	9
Drawing, Mechanical	6	6	6
Mineralogy	0	0	6
SECOND YEAR.			
Lectures and Recitations:			
Ore Dressing	4	3	0
General Geology	5	3	5
Mining	0	2	3
Assaying	2	0	0
Plane Surveying	3	0	0
Mine Surveying	2	0	0
Mineralogy	2	0	0
Lithology	0	2	0
Quantitative Analysis	2	0	0
Lines of Communication	0	0	2
Laboratory Work:			
Surveying, Field Practice	6	0	0
Mineralogy	6	6	0
Lithology	0	3	0
Assaying	0	0	9
Quantitative Analysis	6	9	6
Lines of Communication	0	0	3

SPECIAL COURSE IN ELECTRICITY.

FIRST YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Higher Algebra	5	0	0
Trigonometry	0	5	5
English	5	5	5
General Chemistry	5	5	4
Electricity and Magnetism	0	3	0
Laboratory Work:			
General Chemistry	3	3	3
Drawing, Mechanical	6	6	6
Shop Practice	6	6	0
Physics	0	3	6
SECOND YEAR.			
Lectures and Recitations:			
Analytic Geometry	5	0	0
Calculus	0	5	5
Elementary Mechanics	0	2	0
General Physics	5	0	5
Dynamo Machinery	3	0	0
Thermodynamics	0	5	0
Elective	3	3	6
Laboratory Work:			
Physics	9	9	9
Steam	0	3	0
Elective	6	3	6

SPECIAL COURSE IN SURVEYING.

FIRST YEAR.	Time in hours a week.		
	1st Term.	2nd Term.	3rd Term.
Lectures and Recitations:			
Higher Algebra	5	0	0
Trigonometry	0	5	5
English	5	5	5
Elective	2	5	5
Laboratory Work:			
Drawing	6	6	6
Field Practice	0	0	6
Elective	9	9	3

SECOND YEAR.

Lectures and Recitations:

Surveying	3 hours a week.
Elective	12 hours a week.
Field Practice	9 hours a week.
Drawing	6 hours a week.

COURSES IN DETAIL.

Mathematics.

Professor DEAN; Assistant Professor L. E. GARRETT.

The study of Mathematics, as pursued at this school, is chiefly for the purpose of acquiring a working knowledge of its use in the subsequent studies of Engineering, Physics, and Chemistry, and not merely as a component part of a general education. Great care is accordingly exercised to insure the attainment of skill in practical applications requiring analytical powers as well as mere computation. Frequent written reviews test the proficiency of the student. Advanced standing is given only when equivalent work has been done in a School of Engineering.

1. **Graphic Algebra, Curve Tracing, and Algebraic Analysis.** This course is designed to fit students for the study of Analytic Ge-

ometry and Calculus. It embraces the following topics: Solution of quadratic equations; theory of quadratic expressions; solution of higher numerical equations, graphically and arithmetically; theory of integral algebric functions; tracing of curves having simple numerical equations; graphical and arithmetical calculation of co-efficients of empirical formulae; convergency of infinite series; use of infinite series in approximate calculations; practical applications of the binomial theorem; errors of observation; method of least squares. Freshman, First term, five hours a week. Text-book, Hall & Knight's Algebra.

2. **Plane Trigonometry.** This subject being the most important in the mathematical equipment of the engineer is given due prominence. The student is drilled, not only in the solution of triangles and other geometrical problems, but in the applications of the trigonometry functions in analysis and in shortening computations. The first term's work will consist of computations of parts of right triangles, with and without the aid of logarithms, the solution of oblique triangles by means of right triangles, and the derivation and use of trigonometric identities. Freshman, Second term, five hours a week. Text-book: Crawley's Elements of Trigonometry.

3. **Trigonometry, Plane and Spherical.** The more difficult parts of plane trigonometry, limits, expansion, of functions in series, applications of DeMoiore's Theorem; spherical trigonometry, and its applications to geodesy and astronomy. Freshman, Third term, five hours a week. Text-book: Crawley's Elements of Trigonometry.

4. **Descriptive Geometry.** The usual text-book work is reinforced with daily blackboard exercises in presenting the projections of familiar objects, intersections of plane and curved surfaces, sections, developments, etc. The work includes perspective and shades and shadows. The afternoons in the drawing room are devoted to the solution, in neat form, of the more elaborate exercises. Freshman, Second and Third terms, two recitations a week, and three hours at the drawing board. Text, Founce's Descriptive Geometry.

5. **Analytic Geometry.** The matter and method in this course are intended to aid the student in his subsequent reading of technical literature, and in solving the problems which arise in his work in Mechanics and Physics. The subject is received from the standpoint of the engineer as nearly as possible without sacrificing its cultural value.

The work in calculus is started in the latter half of the term and carried through the differentiation of algebraic functions and their

application to investigation of properties of tangents and normals and problems in maxima and minima. Sophomore, First term, five hours a week. Text-books: Ashton's Analytic Geometry, Gibson's Graphs, Manuscript Notes.

6. **Differential Calculus.** To the student and the engineer who is willing to take for granted the formulae worked out by other persons, the Calculus is unnecessary, but to those who wish to satisfy themselves as to the correctness of the reasoning and formulae of others, and to independent workers in Physics, Chemistry, and Mechanics, it is indispensable. This course includes: Graphic representation of functions; algebraic and geometrical limits; derivatives of algebraic functions; geometrical problems in maxima and minima, involving algebraic functions; tangents, normals and asymptotes; tracing curves having singular points; derivatives of trigonometric functions; problems in maxima and minima; kinematical problems; derivatives of inverse trigonometric functions; derivatives of complex functions; Maclaurin's Theorem and Applications; Taylor's Theorem and Application; functions of two variables; problems in maxima and minima; tangent planes and normals. Sophomore, Second term, five hours a week. Text-books: Osborne's Calculus, Manuscript Notes.

7. **Integral Calculus.** An attempt is made to ground the student so thoroughly in the integration of the functions most commonly occurring in Mechanics and Physics that he may be independent of tables of integrals. Considerable use is made of integration in series and of integration in the development of functions in series. Particular attention is given to integration as a summation.

Throughout the term the class is drilled in calculating areas, centres of gravity, moments of inertia, attractions, potential, and in solving the simpler forms of differential equations, which occur in Mechanics and Physics. Sophomore, Third term, five hours a week. Text-book, same as course 5.

8. **Mechanics of Engineering.** It is the aim in this course to develop the essential principles of mechanics and to render the student proficient in applying them to practical, rather than theoretical, problems. To this end, a large number of problems are solved, which, so far as possible, are selected from machines or structures with which the student is already familiar, or the study of which he is subsequently to take up. Juniors, First term, five hours a week.

Maurer's Technical Mechanics forms the basis of this course.

9. **Mechanics of Materials.** Theory of stress, strain and elas-

ticity and its application to the design of members of machines and structures; a discussion of the properties of the materials of engineering construction. Some of the topics which, for lack of time, cannot be adequately treated in the First term, are disposed of here. Juniors, Second term, five times a week.

Merriman's Mechanics of Materials, lectures and blackboard notes.

Elective Work.

Students in the General Science Course who elect work in Pure Mathematics will confer with the Head of the department, who will arrange work according to the needs, tastes, and aptitudes of the applicants. There is no attempt made to give *Graduate* work in this department, but any student who shows ability will be encouraged.

The following courses are offered to students who have passed all the required work in Mathematics and Mechanics, and General Physics:

1. Dynamics of Rigid Bodies.
2. Hydrodynamics.
3. Elasticity.
4. Newtonian Potential Function.
5. Harmonic Functions.
6. Least Squares.
7. Differential equations of Mechanics and Physics.

These courses will consist of lectures based on the works of Webster, Byerly, Peirce, and Merriman, and of problems to suit the needs of the students.

Chemistry.

Professor GOTTSCHALK; Assistant Professor THOMPSON; Mr. SELTZER; Mr. MANN; Mr. LANE.

1. **General Chemistry.** A comprehensive study of the general principles of Chemistry and of the more important elements. Special attention is paid to the Chemistry of the Metals. The periodic law is followed throughout. The lectures are fully illustrated; the class is divided into several smaller sections for recitations. Lectures and recitations, five hours a week during the First and Second terms, and four hours a week during the Third term of the Freshman year. Text: Gooch and Walker, Outlines of Inorganic Chemistry.

2. **General Chemical Laboratory.** The laboratory work accompanying General Chemistry consists of experiments which are

largely quantitative, and which are intended to teach stoichiometrical relations from the first. One afternoon a week throughout the Freshmant year for Civil and Mining Engineers, and three afternoons a week during the first term, for students in the Metallurgy Course and the Special Course in Mining, Surveying, and Assaying.

3. **Qualitative Analysis.** This course includes lectures and laboratory work; the laboratory work includes the tests and separation of the more common metallic elements; analysis of solutions containing phosphates, of alkaline solutions, of insoluble substances, of alloys, of natural products, and of slags. The course also includes blow-pipe analysis. Lectures, two hours a week during the Second term of the Sophomore year, for students in Mining Engineering and in General Science, and two lectures a week during the Second term of the Freshman year for students in the Metallurgy, and Mining and Assaying Courses.

Laboratory work, two afternoons a week during the Second and Third terms of the Sophomore year, for students in Mining Engineering and in General Science; three afternoons a week during the Second term, and two afternoons a week during the Third term of the Freshman year for students in Metallurgy; three afternoons a week during the Second and Third terms of the First year of the Special Course in Mining and Assaying. Text: Treadwell and Hall, Qualitative Analysis.

4. **Quantitative Analysis.** Introductory Course. This work begins with a study of the balance; this is followed by accurate gravimetric analysis, first on pure soluble salts, then on natural products; then by accurate volumetric analysis (acidimetry, alkalimetry, iron by the permanganate method). As samples of technical work, the wet assays, as practiced in the west, are studied during the latter half of the course. Lectures, two hours a week during the First term of the Junior year for Mining Engineers, and two lectures a week during the First term of the Sophomore year for Metallurgists and students in the special Course in Mining and Assaying.

Laboratory work for Mining Engineers, two afternoons a week during the First term and three afternoons a week during the Second term of the Junior year; for Metallurgists, two afternoons a week during the First term and three afternoons a week during the Second term of the Sophomore year; for students in Mining, Chemistry and Assaying, two afternoons a week during the First term and three afternoons a week during the Second term of the Second year.

5. **Quantitative Lectures.** This lecture course is devoted to a com-

plete exposition of the general methods and details of manipulation of analysis, theory of instruments used, general chemical theory not included in Freshman Chemistry, and the discussion of the sources of error, including testing, purification, and preparation of reagents. Lectures, for Metallurgy Course, two hours a week during the Second and Third terms of the Sophomore year.

6. **Quantitative Analysis.** This course is planned to train the student in general methods of technical analysis. Laboratory work for students in Special Course in Mining, Chemistry, and Assaying, two afternoons a week during the Third term of the Second year

7. **Slag Analysis.** This course presents the methods for complete analysis of slags of various kinds. Laboratory work, Metallurgy Course, four afternoons a week during the Third term of the Sophomore year.

8. **Metallurgical Analysis.** Advanced Quantitative Analysis in its application to Metallurgy and Metallurgical Processes is presented in the laboratory. Laboratory work, Metallurgy Course, two afternoons a week during the First term of the Junior year.

9. **Technical Analysis.** This is an advanced and applied course in Quantitative Analysis. Lectures, Metallurgy Course, one hour a week during the Third term of the Senior year. Laboratory work, Metallurgy Course, one afternoon a week during the Third term of the Senior year.

10. **Chemical Memoirs.** Carefully prepared abstracts of current articles or of special subjects are prepared by the students for this course.

Reports, for Metallurgy Course, one hour a week during the First term of the Senior year.

11. **Electrochemistry.** This course includes a theoretical introduction of the study of Electrochemistry and is followed by applications of principles. Lectures, for Metallurgy Course, two hours a week during the Second term and three hours a week during the Third term of the Junior year. Laboratory work, for Metallurgy Course, one afternoon a week during the Second term and two afternoons a week during the Third term of the Junior year.

12. **Physical Chemistry.** This is a short course designed mainly as an introduction to the various kinds of chemical equilibria met by the metallurgist. Lectures, for Metallurgy Course, two hours a week during the Second term of the Junior year. Laboratory work, for Metallurgy Course, one afternoon a week during the Second term of the Junior year.

Physics.

Professor McRAE; Mr. MIX.

1. **Elementary Mechanics.** This subject includes the study of the simple machines and the fundamental principles of mechanics and hydrostatics. Lectures illustrated by experiments and recitations. Sophomore, Second term, two times a week. Text-book: Elements of Mechanics, Merriman.

2. **Electricity and Magnetism.** Lectures and recitations three hours a week during the Second term. This course is designed as an introduction to the study of Electricity and Magnetism. Text-book: S. P. Thompson's Lessons in Electricity and Magnetism.

3. **Laboratory Work in Electricity and Magnetism.** Three afternoons a week throughout the year.

4. **General Physics.** The study of Advanced Physics is taken up during the Third term of the Sophomore year, and continued during the First term of the Junior. The Sophomores study kinematics, statics, kinetics, and the mechanics of fluids during the first part of the term, and conclude with the subject of Heat. The study of Heat includes an introduction of thermodynamics. Particular attention is paid to harmonic motion as the basis for the study of the subjects of Sound, Light and alternating currents of electricity.

During the First term of the Junior year the study of Electricity and Magnetism is taken up. Such subjects as static electrification, potential, quantity, capacity, resistance, induction, impedance, inductive capacity, electric waves, etc., are studied. During the latter part of the term the reflection, refraction, diffraction, and interference of Sound and Light are studied. The entire course is illustrated by lecture experiments and supplemented by work in the laboratory. Five times a week. Text: Watson's General Physics.

5. **Laboratory Work in Mechanics, Sound, Light, Heat, Electricity and Magnetism.** In the laboratory, the work is quantitative and aims, as far as possible, to instruct the student in the methods of physical measurement and the derivation of relations between the quantities measured. Emphasis is laid upon the derivation of physical laws rather than the verification of them. Required of Sophomores two afternoons a week during the Third term, and of Juniors two afternoons a week during the First term.

6. **Thermodynamics.** A short course in Theoretical Ther-

modynamics is followed by a study of boilers, furnaces and heat engines, standard types of safety and tubular boilers, chimney and mechanical draft, pumps, heaters, etc.; steam, gas and gasoline engines are studied. Recitations and lectures are supplemented by the equivalent of one afternoon a week in the steam laboratory, where practice is had in operating and indicating engines; measuring chimney draft, boiler evaporation and the calorific value of fuels. Junior year, Second term, five times a week. Laboratory, one afternoon a week. Text: Reeve's Thermodynamics.

7. **Dynamo Machinery.** During the First term the Seniors meet three times a week for discussion of direct current dynamos and motors. This course includes a discussion of the magnetic circuit of dynamos and motors, with methods of connecting for operation in series and parallel; characteristic curves, methods of testing dynamos and motors, etc. Text: Sheldon's Dynamo Machinery.

8. **Alternating Current Machinery.** The Seniors meet five times a week during the Second term for the study of Alternating Currents and Alternating Current Machinery. Typical angle and polyphase generators, synchronous and induction motors, stationary and rotary transformers, are studied; and the effect of frequency, induction and capacity upon the impedance of the circuit are studied by the graphical and analytical solution of numerous problems in transmission anl distribution. Text: Sheldon and Mason Alternating Current Machinery.

9. **Electrical Transmission.** During the Third term the Seniors meet three times a week for the study of the Electrical Transmission of energy. The course includes the continuous current circuit, single and polyphase alternating current transmission, series and parallel distribution, design of the conducting system, overhead and underground construction, etc. Lectures and recitations supplemented by one afternoon week devoted to working out electrical problems.

10. **Dynamo Laboratory.** The Seniors work two afternoons a week during the First and Second terms in the dynamo laboratory. During the First term the work is in connection with the course in dynamo machinery, and during the Second term it is in connection with the Alternating Current Machinery. The work includes calibration of instruments, characteristic curves, efficiency tests of dynamos, motors, transformers, etc., line resistance, capacity inductance, impedance and insulation measurements, two afternoons a week during the First and Second terms.

Elective Work.

11. **Theory of Electricity and Magnetism.** A mathematical treatment of the subject. Three hours a week during the First and Second terms. Open to graduates and to advanced undergraduates. Text-book: F. E. Nipher's Electricity and Magnetism.

12. **Alternating Currents.** An analytical and geometrical treatment of the subject. Two hours a week during the First and Second terms. Open to graduates and to advanced undergraduates.

13. **Dynamo Design.** This course includes the design of dynamos, motors, alternators, and transformers. Three afternoons a week during the Third term. Open to those who have completed courses 8 and 9.

Civil Engineering.

Professor HARRIS; Mr. TRAMS; Mr. JOHNSON; Mr. BAUERIS; Mr. MCCRAE.

1. **Surveying.** This consists of a course in General Surveying, including the use of the transit, the level, and the solar compass. Areas surveyed are required to be plotted to scale and the drawing completely finished in all its details. Following this work, city surveying and topographic methods are taught. Lectures and recitations, three hours a week during the First term of the Sophomore year. Text: Johnson, Theory and Practice of Surveying.

1a. **Field Practice.** The students in Civil Engineering have Field Practice three afternoons a week during the First and Third terms of the Sophomore year; the other students in Surveying have Field Practice two afternoons a week during the First term of the Sophomore year.

1b. **Topography.** The students are divided into parties, each with a captain, and to each is assigned an area to be covered. One week is given to this work in the Sophomore year. From notes so taken, the Junior Civil Engineering students are required to produce a finished topographic map.

1c. **Geodesy.** In this course the student is taken into higher problems in Surveying, including Engineering Astronomy, base line measurements, and Precise Leveling. Sophomore Civil Engineering Course, Second term, three hours a week. Text: Johnson, Theory and Practice of Surveying.

1d. **Geodesy, Computations and Drawings.** In this course the student is exercised in mapping and platting in the determination

of areas, and partition of land, and learns to systematically work up the problems in Geodesy. Sophomore (C. E.) year, Second term, three afternoons a week.

2. **Lines of Communication.** This course covers the mathematical problems in the location of railways, highways, and canals, and in setting out and estimating earthwork, laying out track, and locating tunnels. Lectures and recitations, two hours a week, during the Third term of the Sophomore year, for Civil Engineers, and two hours a week for the Third term of the Junior year for Mining Engineers. Text: Nagel's Manual of Field Engineering.

Field Practice, three afternoons a week during the Third term of the Sophomore year of Civil Engineers, and one afternoon a week during the Third term of the Junior year of Mining Engineers.

3. **Railway Economics.** This course treats of the economic principles of railway location and improvements of old lines as affected by curvature grades, first cost, cost of maintenance, and traffic. Lectures and recitations two hours a week during the First term of the Senior year, Civil Engineering Course. Text: Webb, Railway Economics.

4. **Masonry Construction.** The course treats of the economic properties of building stone, brick, and cements; the proportioning, mixing, and placing of mortars and concrete; preparation of foundations and strength and stability of masonry structures, including dams, piers, abutments, retaining walls, and arches. Lectures and recitations, two hours a week during the Second term of the Junior year. Text: Baker, Masonry.

5. **Engineering Laboratory.** This includes tests determining the strength and properties of building materials of various kinds, including stone, brick, cement, concrete, cast iron, steel, and wood. Special attention is paid to tests of cements and cement mortars, and concretes. Two afternoons a week during the Second term of the Junior year. (C. E.)

6. **Roads and Pavements.** A course discussing the principles involved in the location and construction of highways, street and roads, and the merits of the various methods of paving. Lectures and recitations two hours a week during the Second term of the Junior year. (C. E.)

7. **Cement and Concrete Structures.** This course treats of the higher structures in Masonry, including arches, dams, and portals, and the art and theory of "Concrete Steel" structures. The properties, uses, and economy of cement are discussed. The student is required

to prepare drawings and specifications of as many such structures as the time available will permit. Lectures and recitations for Civil Engineering students, five hours a week during the Third term of the Senior year; for Mining Engineering students, two hours a week during the Third term of the Senior year. Text: Baker, Masonry.

8. **Hydraulics.** A course covering the theory of Hydrostatics and of Hydraulics; determination of experimental coefficients and their use as applied to the flow of water through orifices, weirs, pipes, and canals. Also the theory of hydraulic motors and dynamic pumps. Lectures and recitations, five hours a week during the Third term of the Junior year. Laboratory work, one afternoon a week during the Third term of the Junior year. Text: Merriman, Hydraulics.

9. **Water Supply.** A course covering the selection, impounding, transporting, and delivering of water supply to cities and towns. Lectures and recitations, five hours a week during the First term of the Senior year. (C. E.) Text: Turneaure and Russel, Water Supply.

10. **Sanitary Engineering.** A course treating of the necessary precautions for the protection of water supplies from pollution and the methods available for the purification of contaminated supplies; the principles involved in the collection and disposal of sewage and storm waters. Lectures and recitations, five hours a week during the Second term of the Senior year. (C. E.) Text: Folowill, Sewage of Cities.

11. **Irrigation.** A short course designed to bring out the essential details of the location of canals, headworks, impounding reservoirs, and supplementary work. Lectures and recitations, three hours a week during the Third term of the Senior year. (C. E.). Text: Wilson, Irrigation Engineering.

12. **River and Harbor Improvements.** A course treating of the control of flood water, protection of river banks, improvement of navigation, and protection and improvement of harbors. Lectures and recitations, two hours a week during the Third term of the Senior year. (C. E.)

13. **Frame Structures.** This course, designed alike for students in Mining and Civil Engineering, treats of general methods of determining stresses in such structures as single span bridges, roof trusses, towers, derricks, and of the design of individual members, as posts, beams, and rods, to carry specified stresses. Lectures and recitations, two hours a week during the First term of the Senior year. Text: Johnson, Frame Structures.

14. **Bridges (Higher Structures).** This course is for students

in Civil Engineering only and carries them into the study of arches, and cantilever, swing, and suspension bridges. Lectures and recitations five hours a week during the Second term of the Senior year. (C. E.) Text: Johnson, Frame Structures.

15. **Drawing and Graphics.** Students in Civil Engineering are required to complete a topographic map during the Junior year. This is followed by an exercise in the elementary problems of graphic statics as applied to single-span bridges and roofs and to masonry structures. Four afternoons a week during the Second term of the Junior year, two afternoons during the Third term of the Junior year, and three afternoons in the first term of the Senior year. (C. E.)

16. **Engineering Designs.** The Senior students in Civil Engineering devote three afternoons a week during the First and Second terms to designs in some line of engineering, such as steel bridges, concrete steel structures, water supplies, sewage systems, or the like.

17. **Special Investigations (Thesis).** In the Third term Senior year all graduating students give two afternoons a week to original investigation in some subject which they select, with the approval of the Faculty.

18. **Compressed Air.** A course covering laws governing the compression and piping of air and the application of compressed air to the industries. Lectures and recitations, two hours a week during the Second term of the Senior year. Laboratory, one afternoon a week during the Second term of the Senior year.

19. **Astronomy.** A course in general astronomy is given for students in Civil Engineering. Lectures and recitations, two hours a week during the Third term of the Junior year. (C. E.) Text: Young, General Astronomy.

Mining Engineering.

Professor LITCHMAN; Director YOUNG.

1. **Elementary Mining.** This short course outlines the principles on which the science of Mining Engineering is founded and is designed to introduce the student to fundamentals which will enable him to appreciate the applications of the other studies of the Freshman and Sophomore years. Lectures, all Freshmen, two hours a week during the First term.

2. **Mine Surveying.** The theory and the practice of the surveying of mineral lands and mines are presented by lectures. Many problems are introduced and the student is trained in various calcu-

lations, including the reduction of notes of underground surveys requiring the auxiliary telescope, volumes of stopes, mineral acreage, intersections of veins, underground connections, and general problems in the determination of the location of mine openings. A Mine Surveying trip to the Joplin District is a required part of the work of the Junior year. Lectures and recitations, Mining Engineering Course, two hours a week in the First term of the Sophomore year.

3. **Mining.** This course includes lectures on prospecting, drilling, blasting, boring, tunnelling, shaft-sinking, and mining methods. The various tools and appliances used in these operations are described. A review of methods of mine timbering is included in the course. Lectures and recitations, two hours a week during the Second term of the Sophomore year, for Mining Engineering Course.

4. **Mining.** This course is a continuation of course 3 and includes lectures on mine haulage, hoisting, mine drainage, mine ventilation, lighting, accidents, and hygiene. Lectures and recitations, Mining Engineering Course, three hours a week during the Third term of the Sophomore Year.

5. **Elements of Ore Dressing.** A course in the principles of the mechanical movements underlying the operation of ore dressing machinery. The course consists of a series of lectures on shafting, pulleys, belting, power, transmission, and mechanical movements for obtaining uniform, intermittent, and variable motions; a short discussion of the more common fittings used in the transmission of air and steam, and a brief description of the various machines and apparatus in use for the crushing, classification, and concentration of the more important ores. Numerous problems are given the student to illustrate the principles discussed. Lectures, three times a week, Third term, Junior year, Metallurgy, Mining Engineering, and Special Courses in Mining, Chemistry and Assaying. Text: Richards, Ore Dressing.

6. **Junior Trip.** At the end of the school year the members of the Junior class make a four-week trip to the mining districts of Southeast and Southwest Missouri. The purpose of the trip is to give an opportunity for the study of the methods of mining and the concentration of ores in the districts visited, together with work in Mine Surveying and Geology. A complete report of the work of the trip is required.

7. **Ore Dressing.** This course presents the principles, methods, and mechanical appliances in use today for crushing, classifying, and concentrating important ores. The course must be preceded by Elements of Ore Dressing, and includes a practical discussion of the

various principles of Ore Dressing, and Ore Dressing Machinery. Numerous problems are given the student, showing the applications of the principles discussed. Lectures and recitations, Mining Engineering and Metallurgy Courses, four hours a week during the First term, and three hours a week during the Second term of the Senior year. Text: Richards, Ore Dressing.

8. (a). **Ore Dressing Laboratory.** The object is to give the student experience in the more common methods of Ore Dressing, treated in the discussions, and to afford practice in the application of principles to the production of useful results. Two afternoons a week, First term, Senior year, for Mining Engineering and Metallurgy Courses.

(b). **Ore Dressing Laboratory.** This involves the application of Ore Dressing principles to some specific problems of ore treatment. It includes the working out of a practical method for the solution of the problem, together with plans, drawn to scale, showing the arrangement of the plant designed, and specifications giving the kind and amount of machinery and material used. One afternoon a week, Third term, Senior year.

(c). **Ore Dressing Laboratory.** In addition to the laboratory work (see course 8a) of the regular Mining Engineering Course, the students taking the Ore Dressing Option do extra work in the Ore Dressing Laboratory. This consists in part of testing ores to determine a process of treatment, mill sampling, and tests of the quality of work of different machines under varying conditions. Laboratory work, Ore Dressing Option and Metallurgy Courses, three afternoons a week during the First term and two afternoons a week during the Third term of the Senior year.

9. **Mining Law and Contracts.** The general principles of Mining Law are reviewed, with discussions of legal decisions in representative cases. The students are given the general principles governing the making of contracts together with discussions of contracts typical of various mining districts. Lectures, Civil Engineering, Mining Engineering, and Metallurgy Courses, two hours a week during the First term of the Senior year.

10. **Mine Management.** This course is planned to give the student an idea of the principles of management of mining enterprises, and reviews methods of mine organization, mine accounting, and presents economic problems in connection with mine management. The practice of mine examination and mine reporting is reviewed. Lectures, Mining Engineering Course, two hours a week during the Third

term of the Senior year. Text: Rickard, Economics of Mining. Rickard, Ore Sampling.

11. **Mining Problems.** Each student is assigned several problems which occur in connection with mining operations and in the installation of mining equipment. Mining Engineering Course, one afternoon a week during the Third term of the Senior year.

12. **Mining Machinery Laboratory.** Prior to undertaking laboratory work on special Mining Machinery, the student is given a thorough training in the machine shop. This work includes chipping to a line, filing to a dimension, and scraping to a surface plate; the principles and uses of the drill-press, planer, lathe, shaper, and milling machine. In this work use is made of the vernier micrometer, thread micrometer, and geartooth caliper. The degree of accuracy thus acquired enables the student to use eye and hand in unison and is of lasting benefit in teaching exactness in statement and measurement. Special attention is given to various types of mining machinery and to the study of steel and other materials which enter into the construction of such machinery. Laboratory work, Mining Machinery Option, one afternoon a week during the First term and three afternoons a week during the Second term of the Senior year.

13. **Mining Machinery.** This course includes an outline of the various types of machinery used in mining operations and is planned to familiarize the student with the best designs of machinery in order that he may be able to select the proper machine for the particular condition, that he may know when each machine operates efficiently, and know how to keep the machine in a first class condition.

The machinery studied includes rock drills, coal cutters, mine hoists, mine pumps, mine locomotives, wire rope haulage systems, mine fans, excavating machinery, and safety appliances.

Lectures and recitations, Mining Machinery Option, four hours a week during the Second term, and five hours a week during the Third term of the Senior year.

14. **Mining Machinery Problems.** This course is a continuation of Course 12, and includes advanced work in the Machine Shop in connection with Mining Machinery. The methods of testing various machines under working conditions are presented, and whenever possible such tests are carefully carried out underground. Laboratory work, Mining Machinery Option, two afternoons a week during the Third term of the Senior year.

15. **Ore Dressing.** This is an advanced course supplementing the regular course in Ore Dressing (course 7). It discusses in detail

the theory of the various machines used in crushing, classifying, and concentrating ores, reviews magnetic separation, and considers thoroughly certain special problems. Lectures and recitations, Ore Dressing Option in Mining Engineering and Metallurgy Course, one hour a week during the Second term and three lectures during the Third term of the Senior year.

16. **Ore Dressing Memoirs.** The student in Ore Dressing is required to do considerable technical reading and prepares carefully abstracts of articles appearing in the technical periodicals and magazines. Articles of special interest in Ore Dressing are assigned for the weekly conference.

Reports, Mining Engineering Course and Ore Dressing Option, one hour a week during the Third term of the Senior year.

17. **Ore Dressing Problems.** This is advanced work in connection with the design of plants and machinery for the treatment of ores tested in the laboratories.

Drafting room work, Ore Dressing Option, one afternoon a week during the Second term and one afternoon during the Third term of the Senior year.

Geology and Mineralology.

Assistant Professor GRISWOLD; Mr. COREY; Mr. DON.

1. **Mineralogy.** The course consists of lectures and laboratory work during one year, beginning in the Third term of the Freshman year. Crystallography is studied first and is followed by the investigation of the physical characters of the minerals. Special emphasis is given to the ores, gangue minerals, non-metallics of economic value, and the rock forming silicates. Lectures, two hours a week during the Third term of the Freshman year and two hours a week in the First term of the Sophomore year. Laboratory work, two afternoons a week during the Third term of the Freshman year and two afternoons a week during the Second and Third terms of the Sophomore year. Text: Dana, Text-book of Mineralogy.

2. **Lithology.** The course is elementary in character; the igneous rocks are studied with reference to texture and mineral composition, and the sedimentary rocks with reference to structure and composition. Lectures, two hours a week during the Second term of the Sophomore year. Laboratory work, one afternoon a week for the Second term of the Sophomore year. Text: Kemp, Handbook of Rocks.

3. **Petrography.** The subject is divided into Optical Mineralogy and Lithology. The igneous rocks are first studied, then the sedimentary and the metamorphic rocks. The course is designed to meet the needs of the mining engineer and the mining geologist. A large amount of time is devoted to the study and determination of hand specimens. Lectures, three hours a week during the First and the Second terms and two hours a week for the Third term of the Senior year in the Mining Geology Option Course. Text: Kemp, Handbook of Rocks, Iddings, Rock Minerals.

4. **General Geology.** This is a lecture course devoted to the principles of general and economic geology. It discusses the evolution of the earth, its present condition, and the processes which have modified its crust and surface. Leectures, five hours during the First term, three hours during the Second term, five hours during the Third term of the Junior year.

5. **General Geology Laboratory.**

Structural Geology. The student has work upon geological models, maps, and photographs with the view to interpreting geological structures and land surface forms. One afternoon a week during the Second term of the Junior year.

Field Work. The student visits various localities near Rolla with the instructor and has the various types of geology explained; then he is assigned an area to map geologically. Two afternoons a week, or the equivalent in time, during the Third term of the Junior year. The course is supplemented by the summer field excursions to Southeast and Southwest Missouri.

6. **Economic Geology.** This is a series of lectures dealing with the occurrence, origin, and distribution of ores, clays, building stones, gems, water supply, and other products of economic value from the different geological formations. The characteristics and genesis of ore deposits are carefully considered. The members of this class visit local points of economic importance, studying iron, lead, coal, clay, building stones, etc., besides making an excursion to the zinc-lead district of Joplin.

Lectures, three hours a week during the First and Second terms and five hours a week during the Third term of the Senior year. Text: Ries, Economic Geology of the United States.

7. **Geology of the United States.** This lecture course considers the various geologic and physiographic provinces of the United States and adjacent areas in their relation to geological development

and economic interest. Optional for Seniors, three times a week during the First term.

8. **Geological Conference.** The conference is devoted to discussion by the students and instructors of geological literature or problems associated with extra reading or with the laboratory work of the term. Optional for Seniors, two hours a week during the Second term.

9. **Structural and Metamorphic Geology.** In this course various type regions of the world will be studied in detail, with reference to structure, to metamorphism, and to their combinations. Optional for Seniors, three hours a week during the Third term.

10. **Senior Geology Laboratory.** (A). During the first term of the Senior year, one afternoon per week will be given to mapping a local area, the resulting map to be accompanied by a geological report. Required of all Seniors in the Mining Engineering Course.

(B) This will include the drawing of maps and sections and some experimental work, planned with reference to the Geological Conference (course 8), and to Structural and Metamorphic Geology (course 9). Two afternoons a week during the Second term of the Senior year.

(C) Excursions to various localities of economic interest within easy reach of Rolla. One afternoon a week for all mining engineers with another afternoon optional during the Third term.

11. **Paleontology.** The course is designed to serve as an introduction to historical geology. Text: Wood's Paleontology.

Lectures, four hours a week during the first and second terms of the Senior year. Laboratory work, two afternoons a week during the Second term of the Senior year.

12. **Historical Geology.** The stratigraphical development of the United States is taken up in as much detail as time permits. Lectures, four hours a week during the Third term of the Senior year.

Metallurgy.

Professor COPELAND; Mr. DUDLEY; Mr. ANDERSON.

The work in this department is designed to give students a thorough training in all branches of Metallurgy.

It is recognized that a school cannot give students, in the brief time at its disposal, that skill which comes from long practice, but it is the aim of the department to give such training in the fundamental principles and their application, that students may become useful im-

mediately on their entrance into the actual practice of their chosen profession. All metallurgical courses are accompanied by graded metallurgical problems, which give the student a technical command of the subject.

An important feature of the instruction in this department is experimental investigation in the metallurgical treatment of various ores.

For convenience in recording and reporting, the subjects following are classified under the general letter M, with necessary subdivisions.

M-1. **Fire Assaying.** Scorification and crucible assays of gold and silver ores, assays of copper matte, combination assay of copper matte, and copper ores for gold and silver, assay of lead, silver, and gold bullion, assay of cyanide solutions for precious metals, corrected assays of high grade precious metal products, fire assay for lead. The laboratory course is supplemented by lectures. The nature of the processes is thoroughly explained and practical difficulties discussed. Two afternoons a week, First and Second terms of the Junior year. Lectures two hours a week during the First term. Text-book: Lodge's "Notes on Assaying."

M-2. **General Metallurgy and Metallurgy of Iron.** This course begins with general principles, including properties of metals and alloys, fuels, fluxes, calculation of charges, general study and classification of furnaces, followed by a study of processes employed for the production of cast iron, wrought iron, and steel. Text: Hofman's "Notes on Steel." Reference books: Roberts-Austen; Introduction: Howe, Metallurgy of Steel; Campbell, Steel. Juniors, Second and Third terms, three hours a week. The Seniors of the C. E. Course are given special work.

M-3. **Metallurgy of Lead and Silver.** Lectures and recitations. Hofman's Metallurgy is used as a text for lead and desilverization of base bullion, and Collin's Metallurgy of Silver for wet processes of silver extraction. Seniors, First term, four hours a week.

M-4. **Metallurgy of Copper, Nickel, Mercury, Tin, Antimony.** Peter's Metallurgy of Copper is used as a reference book and is followed by lectures on the other metals named, with Schnabel's Metallurgy for reference. Seniors, Second term, four hours a week.

M-5. **Metallurgy of Gold and Zinc.** Lectures and recitations. Text-book: Rose, Metallurgy of Gold. For reference on zinc, Ingall's Metallurgy of Zinc and Cadmium. Seniors, Third term, four hours a week.

M-6. **Constitution of Alloys.** Lectures dealing with the theo-

retical and practical considerations that influence the structure and properties of alloys of different types. Lectures and recitations, two hours a week, First term of the Senior year for Metallurgical students.

M-7. **Electrometallurgy.** Lectures are given covering the Electrometallurgical processes that are in use. Efficiency and Engineering calculations based on this and the required courses above mentioned. Lectures and recitations, two hours a week during the First term of the Senior year of the Metallurgy Course.

M-8. **Metallurgical Organization.** The course briefly takes up the principles of organization, and the duties of officers and accounting force of a Metallurgy plant. The outline shows the extent of the course. Organization of companies and working forces, management superintendence, skilled and unskilled labor. Then following this the constitution of capital, stocks, bonds, dividends, and profits. Lectures and recitations, three hours a week during the Second term of the Senior year in the Metallurgy course. Text: Conyngton, Corporate Management.

M-9. **Metallurgical Problems.** These problems aim to cover the common ones that the Metallurgist meets in practicing his profession. They are carefully chosen so as to represent as typical cases as possible. Lectures, one hour a week during the First and Third terms of the Senior year of the Metallurgy Course. Text: Richards, Metallurgical Problems.

M-10. **Memoirs.** The student in the Metallurgy Course is required to do a considerable amount of technical reading in German and English. Carefully prepared abstracts of valuable current articles are presented and read by the students themselves. These articles are chosen by reason of having special value along chemical or metallurgical lines. Reports, one hour a week, during the First term of the Senior year, Metallurgical Course.

M-11. **Metallurgy Conference.** Laboratory Course, M-13, is accompanied by weekly conferences. These are of great value to the student and aid him materially in getting the full value of his laboratory work. One hour a week, Second term, Senior year.

M-12. **Metallurgical Laboratory.** This course covers the testing of ores for process of treatment. Ores are tested by cyaniding, chlorination, amalgamation, lixiviation, concentration, and by combination methods. With aid of smelter schedules, the smelting costs are calculated and the net dollars and cents returns are balanced against the best results by any method or combination of methods, worked out in the laboratory. The endeavor is made, not only to teach metal-

lurgical principles in the laboratory, but also to bring home to the student the great effect which freight rates, etc., might have on the treatment which an ore should receive. Experiments are made in reverberatory and "pot" roasting of ores, and on blast furnace smelting of ores. Furnace heat equations are made by each student from data collected by himself. Seven hours laboratory work during the Second term of the Senior year, in the Mining and Metallurgical Courses. Text: Howe, Laboratory Notes. Weekly conference, one hour a week. (See Metallurgy Conference, M—11.)

M-13. **Metallography.** Study of the microstructure of iron and steel and of the effects of heat treatment. Laboratory work, one afternoon a week, during the Second term the Senior year in the Mining and Metallurgy Courses.

M-14. **Metallurgical Problems.** This course has reference to the designing and proportioning of various types of furnaces for special duties and conditions. It will call for a clear conception of metallurgical principles. The alternative, electrometallurgical problems, will cover the design and estimates for a copper or copper-nickel refinery. One afternoon a week, during the Second and Third terms, Senior year, Metallurgy Course.

M-15. **Metallurgy and Electrometallurgy Laboratory.** Experiments are made in electrolytic refining of copper and in electrolytic and electrothermic treatment of ores and mattes. Laboratory work, two afternoons a week during the First term of the Senior year, Metallurgy Course.

Shop Practice and Drawing.

Assistant Professor BOWEN; Mr. SMITH.

1. **Wood Work.** The work in this course begins with simple exercises in planing and marking with the gage and knife. It continues until the pupil has become thoroughly familiar with the use of the plane, bevel, square, gage and knife. He is then given graded exercise covering rip and cross-cut sawing and sawing to a "fit." Following this comes work at joints designed to show the different methods of construction, glue joints, doweling, dove tails and braces. This work is supplemented by talks on the tools and work in hand, and each student is required to pass a written examination on notes covering the classification and use of hand tools and accessories.

This preliminary work is followed by the construction of a draw-

ing desk of our own design, which is a very rigid and substantial individual desk. It is designed for two sections, each student having a separate drawer and locker for instruments and drawing board, where they are free from disturbance and dust. Following the desk comes Wood Turning, which is designed to familiarize the student with the use of the lathe. He is given graded exercises, beginning with a plane cylinder, embracing curves of various kinds and sizes, and ending with face plate work in rings, balls, goblets, vases, etc. On all the preliminary work students are required to use the tools in such a way as to make the use of sand paper unnecessary.

A final part of this course is cabinet making, designed to give the student work on the planer, universal saw table, wood trimmer, scroll-saw, mortise machine, etc.

After becoming familiar with the different machines pattern-making is begun. The purpose of this work being to teach the student to make representative types of patterns from which castings may be made. The princip! s of the shrink rule are explained, and drawings, such as are used in manufacturing plants, are made in order to teach the use of the finish marks, core boxes, and all conventional signs. All work is done from drawings. Freshman class, two afternoons a week the First and Second terms.

2. **Forge Work.*** This course begins with simple exercises in drawing, upsetting, bending, twisting, punching and welding. The work gradually becomes more difficult, such as making eye bolts, chains, tongs, etc. Tool making is then begun by making screw drivers, hammers, chisels, and a complete set of lathe tools, which will be used later in the machine shop. This work is fully illustrated by drawings and lectures on the subject, covering the properties of the different grades of iron and steel. Great care is exercised to mak the student familiar with the best grade of steel to be used for any required purpose, and the correct shape and temper necessary for the best work in cutting iron, steel, brass, stone, etc. The final and most important part of this work is the testing of rock drills of different makes, care being exercised to preserve the results of the tests on different grades and makes of steel used. Sophomore class, two afternoons a week throughout the year.

3. **Metal Work.** This course begins with chipping to a line, filing to a dimension and scraping to a surface plate. Machine operation is then begun, the principles and uses of the drill-press, lathe,

*Students may elect three terms' work of Machine Drawing instead of three terms in Forge Work.

planer, shaper and milling machine are taught by lectures followed by practical work at each machine. After a reasonable time skill is attained in operating the various machines through a course of graded exercises. Students are required to build complete machines designed by upper classmen or by the Instructor. In this work use is made of the vernier micrometer, thread micrometer and gear-tooth caliper. The degree of accuracy thus acquired enables the student to use eye and hand in unison, and is a lasting benefit in teaching exactness in statement and measurement.

This is a part of the course in Mining Machinery Laboratory, described as course 12 in Mining Engineering.

4. **Mechanical Drawing.** This course includes practice in ruling, line shading, and other exercises teaching the use of drawing instruments; a thorough drill in free-hand lettering, pencil sketching, and drawing from models follows; the final work in this course includes the preparation of complete drawings of machine parts and machines, of mine timbering and mine structures. Two afternoons a week during the three terms of the Freshman year.

5. **Machine Drawing.**** This course is a continuation of the work in Mechanical Drawing of the Freshman year. It includes exercises covering gearing, power transmission, mechanism, and the simpler machines used in Mining, Ore Dressing, and Metallurgy. Sophomore class two afternoons a week throughout the year.

English.

Mr. Scott.

There is a growing appreciation of the value, in practical affairs, of the ability to use language with ease, clearness and forcefulness. The importance of English composition as a mental gymnastics is being acknowledged as never before, and, more and more, instructors in technical schools are recognizing the fact that it is an essential part of an engineer's education.

1. **Theme Work.** All Freshmen in this Institution are required to write, throughout the year, short, daily, and long fortnightly themes. This work is carefully criticised by the instructor, corrected by the student and returned to the former as evidence that the student has profited by the criticisms.

2. **Rhetoric.** Lectures and Recitations. This work is de-

**Students may elect three terms' work in Forge Work instead of three terms' work in Machine Drawing.

signed as a continuation of the subject as taught in the high schools of the State. Freshman, five times a week throughout the year. Textbooks: Brewster's Representative Essays on the Theory of Style, and Baldwin's College Manual of Rhetoric.

3. **English and American Literature.** All Sophomores are required to study English and American Literature throughout the school year. At least two British or American classics will be studied each term. Themes that will test the character of the student's interpretation of these productions will be required. Lectures and recitations once a week throughout the Sophomore year.

Modern Languages.

Mr. Wilkins.

The great quantity and worth of the technical literature in the French and German languages, added to their value as elements of liberal culture, make at least a reading knowledge of them practically a necessary part of an engineer's education. The instruction in each language is designed to present the grammatical structure and the pronunciation of the tongue, to give some acquaintance with the masterpieces of its literature, and to confer such facility in translation as will enable the student to read with ease the language in both its literary and its scientific uses.

1. **German.** Introductory Lessons: Grammar and composition, scientific reader, and scientific journals and magazines. Five times a week throughout the Sophomore year.

2. **French.** Grammar, composition, scientific reader, current scientific journals and magazines. Five times a week throughout the Sophomore year.

3. **Spanish.** The growing demand for Mining Engineers and Metallurgists in South and Central America, in Mexico and the Philippines, where a knowledge of Spanish is almost an essential qualification, has been met by the establishment of a course in this language in the School of Mines and Metallurgy. The natural or conversational method is followed exclusively. Garner's Spanish Grammar, Marion and Garenne's La Introduccion a la Lengua Castellana, Kroh's How to Think in Spanish are all used, as well as other texts. The object is to give the student facility in the every-day speech of the people. Five times a week throughout the Sophomore year.

With the consent of the Faculty, students may elect Spanish as the required modern language.

LIST OF STUDENTS—SESSION 1907-1908.

ENROLLMENT BY DEPARTMENTS.

Graduate Department.

Name. Department.	Postoffice. County.
UNIVERSITY FELLOWS.	
BOTANY.	
Bovie, William T., A. B., Univ. Mich. . .....A. & S.	Augusta, *Mich.* . .....
EDUCATION.	
Gentry, Richard White, A. B. . .....T. C.	Columbia . .....Boone
HISTORY.	
Hughes, Uriel Wright, A. B., A. M.....A. & S.	Coalgate, *Okla.* . .....
ROMANCE.	
Imbert, Louis Etienne, A. B., A. M.....A. & S.	St. Joseph . .....Buchanan
Stewart, Chas. Oran, A. B. (U. of Neb.).....A. & S.	York, *Neb.* . .....
UNIVERSITY SCHOLARSHIPS.	
AGRONOMY.	
Read, John William, B. S. in Agr. . .....Agr.	Columbia . .....Boone
GREEK.	
Krabiel, Helen Mar, A. B., B. S. in Ed.....A. & S.	Kansas City . .....Jackson

GRADUATE DEPARTMENT—Continued.

Name. Department.	Postoffice.	County.
SOCIOLOGY.		
Hays, M. Ecel, A. B.....A. & S.	Columbia	Boone
MISSOURI COLLEGE UNION SCHOLARS.		
HISTORY.		
Giffin, Morrison Beall, A. B (Tarkio College) . .....A. & S.	Soudan, *Africa*	
GREEK.		
Stallings, Mary Frederick, A. B. (Missouri Valley College) . .....A. & S.	Louisville, *Ky*.....	
PHILOSOPHY.		
Zumbrunnen, Albert Clay, A. B. (Central College)..A. & S.	Cowgill . .....Caldwell	
Other Graduate Students.		
Alden, Florence, A. B. (Smith College).....A. & S.	Springfield, *Mass.*	
Alexander, Carter . .....T. C.	Columbia . .....Boone	
Baldwin, Robert Lee, B. S in E. E.....Eng.	Kansas City . .....Jackson	
Benton, Carolyn Belle, B. S. . .....A. & S.	Higginsville . .....Lafayette	
Beswick, George Wharton. A. B. . .....T. C.	Liberty . .....Clay	
Bishop, Erma Rosalind, A. B. (Drury College).....T. C.	Pennsboro . .....Dade	
Blackman, Geo. Horton, B. S. in M. E.....Eng	St. Louis City.....	
Blair, Anna Lou, A. B. (Mo. Valley College) . .....A. & S.	Springfield . .....Greene	
Blair, Jessie Alice, B. L....A. & S.	Sedalia . .....Pettis	
Bohon, Elmer, B. S. in Ed....T. C.	Benbow . .....Marion.	
Boswell, Foster P., Ph. D. (Harvard) . .....A. & S.	Rochester, *N. Y*.....	

GRADUATE DEPARTMENT—Continued.

Name. Department.	Postoffice. County.
Brack, Elbert Otto, B. S. in E. E. .....Eng.	Little Rock, *Ark.*.....
Brack, Gottlieb Sterling, B. S. in E. E.....Eng.	Little Rock, *Ark.*.....
Brooks, Charles, A. B., A. M. .....A. & S.	Durham, *N. H.*.....
Brous, Bertrand Caley, A. B. .....A. & S.	Esrom .....Barton
Brown, Marland Emery, B. S. in M. E.....Eng.	St. Louis City.....
Brown, John Hart, A. B. (Westminster College); A. M. (Princeton) .....A. & S.	Fulton .....Callaway
Bullivant, Francis Jas., B. S. in E. E.....Eng.	Poplar Bluff .....Butler
Butler, Chas. Thompson, Ph. B. (U. Miss.).....A. & S.	Brookhaven, *Miss.* .....
Carpenter, Howard Doty, A. B., A. M. (Princeton).....Eng.	Columbia .....Boone
Carr, Chas. Frederick, B. S. in Ed. .....T. C.	Rucker .....Boone
Chandler, Wm. Henry, B. S. & M. S. in Agr.....Agr.	Columbia .....Boone
Chase, Edgar, A. B. (William Jewell College).....T. C.	California .....Moniteau
Childers, Lucius Franklin, B. S. in Agr.....Agr.	McFall .....Gentry
Cockefair, Edgar Augustus, B. S. in Agr.....Agr.	Unionville .....Putnam
Collett, Charles Otto, Diploma Eng. (Hamburg).....Eng.	Stamford, *Conn.* .....
Collier, Marietta, A. B. (Park College) .....A. & S.	Dearborn .....Platte
Constance, Edw. Cartwright, B. S. in C. E.....Eng.	High Hill .....Montgomery
Coontz, Jno. Leo, Ph. B. (Notre Dame) .....A. & S.	Vandalia .....Audrain
Covington, Ruth Olive, A. B., B. S. in Ed.....A. & S.	Dexter .....Stoddard
Crichton, Leslie Nathaniel, B. S. in E. E.....Eng.	Independence .....Jackson
Davidson, Wm. Clarence, B. S. in C. E.....Eng.	Worth .....Worth
Davis, John E., A. B. (William Jewell College).....A. & S.	Liberty .....Clay

GRADUATE DEPARTMENT—Continued.

Name.	Department.	Postoffice.	County.
Davis, Sheldon Emmor, B. S. in Ed.	T. C.	Eldorado Springs .	Cedar
Diehl, Harry Everett, B. S. in E. E.	Eng.	Clinton .	Henry
Doneghue, Ray Claude, B. S. in Agr. (O. Univ.)	Agr.	Columbia Station, *Ohio*	
Dooley, Marion Sylvester, A. B. .	A. & S.	Houston .	Texas
Driggs, Edwin LeRoy, B. S. in C. E.	Eng.	Mound Valley, *Kans.*	
Dudley, Wray E., B. S. in E. E. .	Eng.	Troy .	Lincoln
Duncan, Mabel Helen, A. B. .	A. & S.	Columbia .	Boone
Edwards, Wm. Westley, B. S. in M. E. (Case School)	Eng.	East Liverpool, *Ohio*	
Egger, Anna Kathrina, A. B. (Oberlin) .	T. C.	Lamar .	Barton
Evvard, Jno. Marcus, B. S. in Agr. (U. Ill.)	Agr.	Pontiac, *Ill.* .	
Fessenden, Chas. Horace, B. S. in M. E.	Eng.	Barberton, *Ohio.* .	
Finley, Rolla B., B. S. (Ill. Wes. U.) .	T. C.	Mexico .	Audrain
Floyd, Wm. Harris III, B. S. in E. E.	Eng.	St. Joseph .	Buchanan
Foglesong, Ella Sara, A. B., B. S. in Ed.	A. & S.	Columbia .	Boone
Frieze, Bessie, A. B.	A. & S.	Seybert .	Dade
Frieze, Vernon, A. B.	A. & S.	Seybert .	Dade
Gleason, Frances Ethel, B. S. in Ed.	A. & S.	Lebanon .	Laclede
Gray, Mary, B. L.	A. & S.	Columbia .	Boone
Gruner, Caroline Frances, A. B., B. S. in Ed.	A. & S.	St. Louis City	
Haggard, Homer Houston, B. S. in C. E.	Eng.	New York, *N. Y.*	
Hain, Veit Aull, B. S. in E. E. .	Eng.	Boonville .	Cooper
Hardy, Arthur Raymond, B. S. in C. E.	Eng.	Lewickley, *Pa.* .	
Harman, Robt. V., A. B. (William Jewell College)	A. & S.	Liberty .	Clay
Harris, Geo. Frederick, B. S. in E. E.	Eng.	Jameson .	Daviess

GRADUATE DEPARTMENT—Continued.

Name.	Department.	Postoffice.	County.
Harris, Robt. Charles, A. B. (Ind. U.)	A. & S.	Cannelsburg, *Ind.*	
Harrison, Albert Grant	T. C.	Collinsville, *Texas*	
Hawkins, Geo. Lorimer, A. B., B. S. in Ed.	T. C.	Paris	Monroe
Haynes, Eli Stuart, A. B., A. M.	A. & S.	Trenton	Grundy
Hayes, Martin L., A. B. Mo. Valley College)	T. C.	Marshall	Saline
Hedges, Peter Thompson, B. S. in Ed.	T. C.	Purdin	Linn
Hendrickson, Norman, B. S. in Agr. (U. of Wisc.)	Agr.	Columbia	Boone
Hopkins, Nelson Orlando, A. B.	A. & S.	Westboro	Atchison
Horn, Ernest, B. S. in Ed.	T. C.	Princeton	Mercer
Horton, Henry Pomeroy, Ph. B. (Ohio U.), A. M.	A. & S.	Columbia	Boone
Howard, Ida Elizabeth, B. L.	A. & S.	Columbia	Boone
Howe, Harley Earl, B. S. in Ed.	A. & S.	Linneus	Linn
Hughes, Harold DeMott, B. S. in Agr. (U. of Ill.)	Agr.	Gurnee, *Ill.*	
Jarvis, Clarence Sylvester, B. S. in C. E.	Eng.	St. George, *Utah*	
Jesse, Caroline Elizabeth, A. B.	A. & S.	Columbia	Boone
Jobson, Arthur James, B. S. in E. E.	Eng.	Bucklin	Linn
Johnson, Helen Moore, A. B.	A. & S.	Osceola	St. Clair
Jones, Abner, A. B., B. S. in Ed.	T. C.	Buffalo	Dallas
Jones, Robt. Wm., A. B.	A. & S.	Columbia	Boone
Kahn, Raphael	A. & S.	Eminendingen, *Germany*	
Kidd, Jas. Franklin, B. S. in E. E.	Eng.	Sedalia	Pettis
Killam, David Edwin, A. B. (William Jewell College)	A. & S.	Winfield	Lincoln
Kilmer, Harry Edmund, A. B.	A. & S.	Yorkshire, *Iowa.*	
Krusekoff, Henry Hermann	Agr.	Chamois	Osage
Langenberg, Emma, A. B.	A. & S.	St. Louis City	

GRADUATE DEPARTMENT—Continued.

Name.	Department.	Postoffice.	County.
LaRue, Harry, B. S. in C. E.	Eng.	Marshall	Saline
Liepsner, Frank Wright, B. S. in Ch. E.	Eng.	Charlottesville, *Va.*	
Liepsner, Adriana May, B. S. in Ed., A. B., A. M.	A. & S.	Kansas City	Jackson
Lockwood, Frank Leroy, B. S. in C. E.	Eng.	Columbia	Boone
Maddox, Edward Morton, B. S. in E. E.	Eng.	New London	Ralls
Malsbury, Omer Elmer, B. S. in C. E.	Eng.	Joplin	Jasper
Marquis, Eva Malvena, A. B.	A. & S.	Kansas City	Jackson
Martin, Charles W., B. S. in C. E.	Eng.	Troy	Lincoln
Monroe, Walter Scott, A. B., B. S. in Ed.	T. C.	Albany	Gentry
Moss, Robt. Faulkner, B. S. in C. E.	Eng.	Columbia	Boone
Moulton, Chas. Robt. B. S. Agr. (U. of Ill.)	Agr.	Glen Ellyn, *Ill.*	
Mumford, Frederick Blackmar, B. S., M. S. (Agr. Col. Mich.)	A. & S.	Columbia	Boone
McCarroll, Benj. Franklin, A. B.	A. & S.	Bloomfield	Stoddard
McCollough, Albert W., A. B. (Tarkio College)	T. C.	Tarkio	Atchison
McGill, Caroline, A. B., A. M.	A. & S.	Lebanon	Laclede
McPherson, James Edward, B. S. in Ed.	T. C.	Martin City	Jackson
Northcutt, Ina Klosking, B. S. in Ed., A. B.	A. & S.	Columbia	Boone
O'Rear, Miranda Allen, B. S. in Ed., A. B.	T. C.	Boonville	Cooper
Otis, Merrill Edward, A. B.	A. & S.	Hopkins	Nodaway
Paine, Howard Shepard, A. B.	A. & S.	Hamden Junct., *Ohio*	
Paine, Alice Milroy, B. S. in Ed.	A. & S.	Louisiana	Pike
Patterson, Melvin Joseph, B. S. (Ohio St. U.)	T. C.	Lexington	Lafayette

GRADUATE DEPARTMENT—Continued.

Name.	Department.	Postoffice.	County.
Pemberton, Walker S., B. S. in Ed.	A. & S.	Armstrong .	Howard
Phillippi, Harry Claire, B. S. in Ed.	A. & S.	Rockport .	Atchison
Potter, Ulysses Grant, A. B. (U. Kan.)	A. & S.	Hiawatha, *Kans.* .	
Price, Wm. Edmund, B. S. in C. E.	Eng.	Harrisonville .	Cass
Price, Lakenan Moss, A. B. .	A. & S.	Columbia .	Boone
Querbach, Earl, B. S. in C. E. .	Eng.	St. Louis City	
Randall, Merle, A. B.	A. & S.	Poplar Bluff .	Butler
Rinkle, Lorin George, B. S. in Agr. (U. of Wisc.)	Agr.	Dimondale, *Mich.* .	
Robinson, Chas. Edmond, A. B. .	A. & S.	Joplin .	Jasper
Saunders, Chas. Winston, B. S. in Ed.	T. C.	Hickman, *Ky.* .	
Schmidt, Oscar Henry, B. S. in C. E.	Eng.	St. Joseph	Buchanan
Schrenk, Louis John, B. S. in M. E.	Eng.	Brunswick .	Chariton
Sewell, Helen Alberta, A. B., A. M.	A. & S.	Farmington, *Maine*	
Schultz, Charles, B. S. in C. E. .	Eng.	Hannibal .	Marion
Shutts, Daniel, A. B. (Knox College) .	T. C.	Galesburg, *Ill.* .	
Silverman, Louis Lazarus	A. & S.	East Boston, *Mass.*	
Sinclair, Elizabeth, B. L.	A. & S.	Columbia .	Boone
Sisson Stanley, B. S. in Ed., A. B. .	A. & S.	Columbia .	Boone
Skidmore, Mark, B. S. in Ed., A. B.	A. & S.	Springfield .	Greene
Smith, Richard Alfred, A. B. (Cornell College, Iowa)	A. & S.	Columbia .	Boone
Spaht, Albert William, B. S. in E. E.	Eng.	Pattonsburg .	Daviess
Stanley, Louise, B. S., B. S. in Ed., A. M.	A. & S.	Nashville, *Tenn.* .	
Trexler, Harrison Anthony, Ph. B. .	A. & S.	Omaha, *Neb.* .	
Trowbridge, Edwin A., B. S. in Agr. (U. Wisc.)	Agr.	Columbia .	Boone

GRADUATE DEPARTMENT—Continued.

Name.	Department.	Postoffice.	County.
Tyler, Eleanor Murdoch, A. B. (Wash. U.)	A. & S.	St. Louis City	
Vandiver, Jas. Louise, B. S. in C. E.	Eng.	Columbia	Boone
Vaughn, Ernest Van Court, B. L., A. M.	A. & S.	Columbia	Boone
Washburn, Robt. Mann, B. S. in Agr. (U. Minn.)	Agr.	Columbia	Boone
Weaver, Willis Kuhn, A. B. (Tarkio College)	A. & S.	Tarkio	Atchison
Williams, Jesse Raymond, A. B., B. S. in Ed.	T. C.	Van Buren, *Ark.*	
Winkler, Louis Harry, B. S. in M. E.	Eng.	Carthage	Jasper
Winston, Isabella Austin, A. B.	A. & S.	Kansas City	Jackson
Wood, James Madison, B. S. in Ed., A. B.	A. & S.	Boyer	Wright
Woodress, Jas. Leslie, B. S. in E. E.	Eng.	Trenton	Grundy
Woodruff, Wm. Francis, A. B.	A. & S.	Warrensburg	Johnson
Young, Daisy, A. B.	A. & S.	Springdale, *Ark.*	

College of Arts and Science.

Name.	Postoffice.	County.
Senior Class.		
Alford, Leland Barton	Vandalia	Audrain
Baker, Bettie May	Columbia	Boone
Baugher, Albert Howard	Bucklin	Linn
Beamer, Maude	Lamar	Barton
Bender, Charles Raymond	Kirkwood	St. Louis
Benton, Carolyn Belle	Higginsville	Lafayette
Blackmar, Rebecca Louise	Columbia	Boone
Blythe, Mary Eva	Mexico	Audrain
Boehm, Gustavus Henriettus	Hermann	Gasconade
Booth, Acena May	Columbia	Boone
Brasfield, Elizabeth	Unionville	Putnam
Brashear, Minnie M.	Kirksville	Adair
Briggs, Pearle Sarah	Columbia	Boone

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Brown, Buford Otis	Denton, *Texas*	
Bullard, H. Hays	Kirkwood	St. Louis
Campbell, Farris	Higginsville	Lafayette
Carr, Charles Frederick	Rucker	Boone
Colvin, George Henry	Mendon	Chariton
Compton, Maud Fisher	Independence	Jackson
Cook, Jennie	Centralia	Boone
Cooper, May Belle	Gallatin	Daviess
Cross, William Thomas	Columbia	Boone
Cross, Mary Thompson	Columbia	Boone
Crow, Clara	Cincinnati, *Iowa*	
Curry, Wm. Ronald	Oregon	Holt
Davis, Sheldon Emmor	Eldorado Springs	Cedar
Demand, Lafayete Stanley	Warrensburg	Johnson
Dimmitt, Bertha	Shelbyville	Shelby
Drake, Charles Baile	Warrensburg	Johnson
Dungan, Hortense Corwin	Oregon	Holt
Dunn, James Arthur	Richmond	Ray
Dyer, Clyde Percy	Joplin	Jasper
Edwards, Rachel	Centralia	Boone
Egelhoff, Clarence Raymond	Kansas City	Jackson
Elliott, Henry, Jr	Whiteside	Lincoln
Eyssel, Henry Otto	Kansas City	Jackson
Fair, Bessie S	Trenton	Grundy
Farley, Nellie Raymond	Peoria, *Ill.*	
Ferris, Elizabeth Reed	Moberly	Randolph
Fleming, Annie Laurie	Columbia	Boone
French, Joseph Harvey	Lancaster	Schuyler
Garnett, Fannie Neville	Belton	Cass
Hardinger, Clerc Temple	Civil Bend	Daviess
Harrison, Albert Grant	Collinsville, *Texas.*	
Heck, Gertrude	California	Moniteau
Holt, Althea Erna	Columbia	Boone
Horn, Ernest	Princeton	Mercer
Horner, Glenn Roy	Deepwater	Henry
Houts, Henry Hale	Warrensburg	Johnson
Johnson, Franklin Paradise	Brookfield	Linn
Johnston, Alice Ewing	Boonville	Cooper
Jones, Ada Magee	Roanoke	Howard
Kampschmidt, August William	Gerald	Franklin
Killam, Susan Elizabeth	Winfield	Lincoln
Kingsbury, Laura Mabel	Columbia	Boone
Kingsbury, Robert Leonard	Estill	Howard
Kiskadden, Andrew Henry	Clayton	St. Louis
Kleeman, Eleanor	Kansas City	Jackson
Kochtitzky, David Wade	Cape Girardeau	Cape Girardeau

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice	County.
Koken, Ellen Augusta	St. Louis City	
Landers, Effie May	West Plains	Howell
Lee, Edgar Desmond	Rush Hill	Audrain
Manning, Everett	Pineville	McDonald
Marquis, Eva Malvena	Kansas City	Jackson
Marshall, Della Esther	Kansas City	Jackson
Matthews, Wm. Chaldee	North Bend, *Oregon*	
Maupin, Oval Asbury	Alamagardo, *N. M.*	
Miller, Edwin Lee	Norborne	Carroll
Michaud, Mathilda Agnes	Louisville, *Ky.*	
Moore, Ethel Clare	Trenton	Grundy
McDearman, Mary Irwin	St. Louis City	
Nagel, Mary Louise	Independence	Jackson
Newcomer, Harriet Elizabeth	Parkville	Platte
Nixon, James Patheric, Jr	Lebanon	Laclede
O'Brien, Agnes	Independence	Jackson
Oliver, Allen Laws	Cape Girardeau	Cape Girardeau
Otis, Rachel Tamer Dora	Hopkins	Nodaway
Paine, Alice Milroy	Louisiana	Pike
Parsons, Elmer Garrett	Harrisonville	Cass
Patterson, Elizabeth Cordelia	Mexico	Audrain
Patton, Lowell Russell	Clarksville	Pike
Phillips, Harry Ashton	Bates City	Lafayette
Pickrell, Claude Dildine	St. Louis City	
Pickrell, Frances Gertrude	St. Louis City	
Potter, Caryl Ashby	St. Joseph	Buchanan
Prentis, Joseph Elliott	Brooklyn, *N. Y.*	
Remley, Edgar Augustus, Jr	Columbia	Boone
Robnett, Mittie Virginia	Columbia	Boone
Rodes, Thula	Kansas City	Jackson
Roth, Norma Elizabeth	Unionville	Putnam
Schonfield, Mabelle	St. Louis City	
Schwabe, George Blaine	Columbia	Boone
Sedwick, Harry Frazer	Mt. Vernon	Lawrence
Shepard, Charlene	Warrensburg	Johnson
Shively, Elva Byron	Henderson, *Ky.*	
Sigler, Melverne Wade	Bethany	Harrison
Singleton, Martha Racelle	Shelbyville	Shelby
Sneed, Carl Miller	Columbia	Boone
Snyder, Joseph Conway	Kirkwood	St. Louis
Spalding, Marion Elizabeth	Columbia	Boone
Spangler, Kathryn E	Clinton	Henry
Stallings, Mary Frederick	Louisville, *Ky.*	
Stickerod, Lydia Adeline	Rockport	Atchison
Stuckey, George Ernest, Jr	St. Louis City	
Summers, James Stephen	Sharon, *Pa.*	

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Talpey, Charlotte Abigail	Kansas City	Jackson
Trotter, Florence	Kansas City	Jackson
Turpin, Mabel Lee	Nevada	Vernon
Watkins, John Armstrong	Torreon, *Mexico*	
Weeks, Eula Adeline	Butler	Bates
Wharton, Mary	Columbia	Boone
Wilson, Dockery	Bethany	Harrison
Withers, Jennie Hayne	Ft. Scott, *Kansas*	
Yates, John	Fulton	Callaway
Junior Class.		
Adams, Mattie Belle	Kirksville	Adair
Alderman, Wesley Edward	Macon	Macon
Alexander, Preston Carter	Gallatin	Daviess
Alexander, Raymond Hooper	Lees Summit	Jackson
Allen, Edith Frances	Chicago, *Ill.*	
Allen, Charles Boyd	Windsor	Henry
Avery, Samuel Demetrius	Troy	Lincoln
Barkley, Bennetta Maude	Mexico	Audrain
Bayless, Daniel O	Columbia	Boone
Bell, Louis Albert	St. Louis City	
Bell, Eliabeth Lucile	Monroe City	Monroe
Bowman, Henrietta Marr	Kansas City	Jackson
Brack, Clifton Lee	Little Rock, *Ark*	
Bray, Willis Joseph	Fredericktown	Madison
Bridger, Irwin Lincoln	Hopkins	Nodaway
Brightman, Samuel Charles	Lancaster	Schuyler
Caldwell, Minnie Wilfred	Columbia	Boone
Cannell, Grace	Hatton	Callaway
Carter, Jesse Lee	Columbia	Boone
Casteel, Arthur Cain	Princeton	Mercer
Cho, Toda	Tochigi, *Japan*	
Clay, Elizabeth Hope	Kansas City	Jackson
Cleland, Joseph Waldo	Buffalo	Dallas
Cole, Frances Cleveland	Columbia	Boone
Comby, Julius Hugh	Iantha	Barton
Compton, Ross N	Dexter	Stoddard
Cook, Thomas Talmage	Jefferson City	Cole
Crain, Henry Walter	Elmo	Nodaway
Creswell, Alberta	Kansas City	Jackson
Cunningham, Ethel Belle	Columbia	Boone
Davenport, Sara Jeannette	Columbia	Boone
Davis, Clara	Columbia	Boone
Dawson Charles Edward	Knobnoster	Johnson
Driver, William Lloyd	Reeds	Jasper

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Evans, Ernest Roper	Armstrong	Howard
Eversole, Henry North	Caledonia	Washington
Ewing, Ephram Macdonald	St. Louis City	
Faller, Jessie Catherine Margaret	Brunswick	Chariton
Foglesong, Clara Magdalene	Columbia	Boone
Ford, Mary Frances	Columbia	Boone
Forgrave, Leon Paul	St. Joseph	Buchanan
Garnett, Bessie May	Columbia	Boone
Garrison, Noble Lee	Bethel	Shelby
Geery, Edith Ursula	Warrensburg	Johnson
Graves, Dorsett Vandeventer	Montgomery City	Montgomery
Griffin, Cary Augustus	Kansas City	Jackson
Haines, Frances Edith	Columbia	Boone
Hanna, Mary Alice	Trenton	Grundy
Hart, John Howard	Windsor	Henry
Harvey, Homer Alvan	Elk City, *Kans*	
Hayes, William Arthur	Moberly	Randolph
Hayhurst, Miriam	Dunkirk, *N. Y.*	
Hecker, Charles Henry	St. Louis City	
Helm, Florence	Hannibal	Marion
Helm, Katherine Mary	Hannibal	Marion
Hicklin, Maurice H.	Lexington	Lafayette
Higbee, Paul Dysart	Kirksville	Adair
Hildebrand, Mary Blanche	Columbia	Boone
Hill, Johnson Davis	Eldorado Springs	Cedar
Hirsh, Karl	Chillicothe	Livingston
Hodge, John L.	Swinton	Stoddard
Howat, Lela Jean	Clarksville	Pike
Hudson, James Franklin	Columbia	Boone
Ingrum, Dora Louvenia	Columbia	Boone
Ingrum, Alpha Elverto	Columbia	Boone
Irion, Frederick Christian	Cape Girardeau	Cape Girardeau
Jackson, Frank Lenore	Worthington	Putnam
Jackson, Andrew, Jr.	Carrollton	Carroll
Johannes, Dot	Nevada	Vernon
Johnson, Lillian	Columbia	Boone
Johnson, Roy Ivan	Princeton	Mercer
Jones, Roxana Howard	Sorrel	Sullivan
Jones, Webster Newten	Rich Hill	Bates
Kinkead, Robert Benton	Kirkwood	St. Louis
Kline, Bessie Mabel	Savannah	Andrew
Kruse, Samuel Andrew	Sappington	St. Louis
Lefevre, Ada	Columbia	Boone
Meyer, Myrtle Louise	Kahoka	Clark
Moore, Jerome Earle	Columbia	Boone
Moore, Anna May	Paris	Monroe

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Moore, Leroy	Joplin	Jasper
Morsell, Caroline	St. Louis City	
Morrow, Eugene Erwin	St. Louis City	
Moss, Juliette	Columbia	Boone
McBaine, Philip	Columbia	Boone
McClure, Myrtle Olive	Webster Groves	St. Louis
McCollum, Claude Cecil	Seligman	Barry
McCune, Jean	Bowling Green	Pike
McKee, Clarence A	Indiana, *Pa.*	
Nesbitt, Ethel Amanda	St. Joseph	Buchanan
Newell, Margaretta Louisa	Carthage	Joplin
Nowell, Elizabeth	Columbia	Boone
Oliver, William Palmer	Cape Girardeau	Cape Girardeau
Orr, Warren Henry	Lawton, *Okla.*	
Patterson, Edwin Wilhite	Kansas City	Jackson
Pirkey, Marion Ely	Louisville, *Ky.*	
Price, Lacy Pittman	Brunswick	Chariton
Price, Elizabeth Johnson	Mexico	Audrain
Quinn, Effie Roberta	Columbia	Boone
Read, John Wood, Jr	Columbia	Boone
Remley, Winifred Mary	Columbia	Boone
Renz, Elenora	Weston	Platte
Riddle, Charles Franklin	Kingston	Caldwell
Roberts, Ansley Hope	Hallsville	Boone
Robinson, Ophelia Lyda	Hallsville	Boone
Roby, Grace Dell	Rocheport	Boone
Rogers, James Foote	Sedalia	Pettis
Sanborn, Edith Ellen	Macon City	Macon
Sapp, Peyre Ferry	Galena, *Kans.*	
Schwabe, Laura Jo	Columbia	Boone
Schwabe, Henry Otto	Columbia	Boone
Scrutchfield, Irene E	Excello	Marion
Seley, Genevieve Mary	Columbia	Boone
Shaver, Mary Winters	Plattsburg	Clinton
Shepard, Susie	Warrensburg	Johnson
Shoemaker, Floyd C	Bucklin	Linn
Sievers, John Frederick	Marion, *Kans.*	
Smith, Robert Milton	Columbia	Boone
Smith, John Herbert	Smithton, *W. Va.*	
Smith, Nelle	Vinita, *Okla.*	
Smith, Frances Margaret	Maryville	Nodaway
Smith, Ina V	Louisiana	Pike
Spicer, Ines	Columbia	Boone
Starin, Genevieve Alida	Columbia	Boone

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Steele, Stella Elizabeth	Columbia	Boone
Stewart, Walter W	Neosho	Newton
Stone, Sue Gertrude	Boonville	Cooper
Sturges, Georgie	Sedalia	Pettis
Swainson, Anna Elizabeth	Nevada	Vernon
Talbert, Rollie Edward	Cassville	Barry
Taylor, Susan Shelby	Columbia	Boone
Thompson, Will Speer	Princeton	Mercer
Tidd, Charley Coombs	Columbia	Boone
Timmons, Winnie	Columbia	Boone
Trowbridge, Harold James	St. Louis City	
Tupes, Ernest E	Raymore	Cass
Wetzel, Lewis Albert	Greenfield	Dade
Wilder, Beulah	Laddonia	Audrain
Wilhite, Cordelia Mitchell	Columbia	Boone
Wilson, John	Bloomfield	Stoddard
Winter, Ira Dutress	Aurora, *Neb.*	
Woods, James Lee	Princeton	Mercer
Sophomore Class.		
Alexander, George Aubrey	Lancaster	Schuyler
Alspaugh, Wiliah Charity	Sedalia	Pettis
Anderson, Sara Edmonds	Columbia	Boone
Anderson, Edna Frew	Independence	Jackson
Bain, Susan	Ferguson	St. Louis
Barnes, Katherine	Ft. Smith, *Ark.*	
Barnes, Walter Robert	Kansas City	Jackson
Bartow, Russell V	Brunswick	Chariton
Bass, Sigmund M	St. Louis City	
Baugher, Rolla Audrain	Bucklin	Linn
Bayley, Alphonso Vincil	Columbia	Boone
Beamer, Roxa	Lamar	Barton
Beaumont, John Wheeler	St. Joseph	Buchanan
Bernet, Fred Huttig	St. Louis City	
Blazer, Eugene Nelson	St. Joseph	Buchanan
Bodman, Jno. Whittlesey	Kansas City	Jackson
Boggess, Eula Elizabeth	Excelsior Springs	Clay
Bohling, Walter Henry	Sedalia	Pettis
Boisseau, Marion Edward	Holden	Johnson
Boone, Wilmot deSaussure	Shanghai, *China*	
Boyd, Loren B	Larned, *Kan.*	
Bradley, John William	Higbee	Randolph
Brandenburg, Ernest Clay	Missouri City	Clay
Bresnehen, Vivian	Brookfield	Linn
Brinkley, Joe Arthur	Linneus	Linn

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Brown, Carrie Belle	Kansas City	Jackson
Brown, Mary Efale	Kansas City	Jackson
Bryan, Rebecca Wilcox	Van Buren, *Ark.*	
Buckner, William F	Marshall	Saline
Burch, Otis Mason	Hopkins	Nodaway
Burgess, Charles Elmer	Columbia	Boone
Burris, Frank Edward	Bethany	Harrison
Byers, Charles Clinton, Jr	Kansas City	Jackson
Callaway, David Scott	Nevada	Vernon
Cammack, Edith	Kansas City	Jackson
Cannon, Mrs. Ida Wigginton	Columbia	Boone
Carter, Woodward Lee	Marshall	Saline
Chiles, Eber Earl	Kansas City	Jackson
Chittenden, Edward Wilson	Clinton	Henry
Clarahan, Mamie Margaret	Harper, *Iowa*	
Clements, Frances Elizabeth	Independence	Jackson
Cole, James Preston	Quaker	Washington
Colwell, Elmira Edna	St. Louis City	
Comer, Arthur Oliver	Columbia	Boone
Coon, Bonnie Lee	Trenton	Grundy
Covington, Sibyl Violet	Dexter	Stoddard
Cox, Norman Alphus	Joplin	Jasper
Craig, Gladys Louise	Knobnoster	Johnson
Craig, Mary Mahala	Knobnoster	Johnson
Craig, Sadie Lucile	Columbia	Boone
Crampton, William Edgar	Braymer	Caldwell
Crossan, Charlene E	Bethany	Harrison
Crowder, Albert Baxter	St. Louis City	
Curry, Charles Forrest	Kansas City	Jackson
Davis, Horace Raymond	Columbia	Boone
Dawson, John Douglas	Knobnoster	Johnson
Deatherage, Wm. Newland	Kansas City	Jackson
Dechman, Anna Garlington	Oklahoma City, *Okla.*	
Deffenbaugh, Walter Irvin	Adrain	Bates
Dennis, Harry Clay	Macon City	Macon
Dick, Christine	St. Louis City	
Dierssen, Anna	Cape Girardeau	Cape Girardeau
Dodson, Edith	Columbia	Boone
Douglass, Arden Herman	Kansas City	Jackson
Drake, Mrs. Grace W	Columbia	Boone
Drescher, Margarette Belle	Hannibal	Marion
Dunbar, Helen	Columbia	Boone
Edwards, Jessie McAlister	Columbia	Boone
Eells, Isadore	Webb City	Jasper
Evans, Eldon Cobb	Oregon	Holt
Fair, Harry Joel	Trenton	Grundy

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Ferguson, Wm. Ward, Jr.	Rich Hill	Bates
Flagg, Howard	Louisiana	Pike
Ford, Lester R.	Rich Hill	Bates
Fortner, Edgar S.	Plano, *Texas*	
Fowlkes, Ruby Frances	Parma	New Madrid
Fristoe, John D., Jr.	Miami	Saline
Gibbs, Charles Edward	Bowling Green	Pike
Glasgow, George Winfield	Macon	Macon
Glenn, Robert Ambrose	Webb City	Jasper
Gordon, Mabel Grace	Columbia	Boone
Grace, Frances Mabel	Emory, *Texas*	
Gray, Minnie	Frazier	Buchanan
Grouse, Gladys Ethelyn	Chillicothe	Livingston
Haas, Edna Eugenia	Stanberry	Gentry
Halliburton, Wayne Cavil	Milan	Sullivan
Hanson, Hilda	Harlem	Clay
Haun, Grace	Iola, *Kan.*	
Hays, Eleanor Bessie	Columbia	Boone
Heddens, Vernon Offutt	St. Joseph	Buchanan
Heins, Albert	Cameron	Clinton
Herlinger, Orie Leon	Vandalia	Audrain
Herring, Flora Abbott	Columbia	Boone
Hill, Herman Bebe	Wellston	St. Louis
Hopkins, Roy Corwith	DeSoto	Jefferson
Howell, Florence	Hallsville	Boone
Hudson, Carl Bibb	Montgomery	Montgomery
Ingels, Calibel	Columbia	Boone
Isbell, Mary Mildred	Washington	Franklin
Jackson, James A.	Troy	Lincoln
Jenkins, Forest Omer	Odessa	Lafayette
Johnson, Harriet E.	Warrensburg	Johnson
Johnston, Margaret Bass	Columbia	Boone
Jones, Ira	Eldorado Springs	Cedar
Jones, Asenath Mary	Roanoke	Howard
Katzmaier, Elsa C.	Kansas City	Jackson
Keene, Mary Lucile	Columbia	Boone
Kem, James Preston, Jr.	Macon City	Macon
Kenton, Gussie Viron	Hardin	Ray
Kirk, George Washington	Bethany	Harrison
Kirk, Hazel	Warrensburg	Johnson
Kirtley, Julia	Kansas City	Jackson
Leaphart, Sada Frances	Brookfield	Linn
Letts, Mary Elizabeth	Sedalia	Pettis
Lionberger, Wm. Harvey	New Florence	Montgomery
Logan, Mary Shepherd	Hannibal	Marion
Loomis, Charles Francis	St. Louis City	

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Lowrey, Lawson Gentry	Excelsior Springs	Clay
Lucas, David Wesley	Goodwater	Iron
Lyda, Robert Gideon	Columbia	Boone
Lyon, Richard Guy	St. Joseph	Buchanan
Mahan, Claude Will	Shelbina	Shelby
Mann, Helen	Gallatin	Daviess
Martin, Floyd August	Eldorado Springs	Cedar
Means, George Washington	St. Joseph	Buchanan
Meyer, Mrs. Stella S	Columbia	Boone
Miller, Charles Henry	Witchita, *Kans.*	
Miller, Margaret Emma	Rush Hill	Audrain
Miller, Frances Howe	Jefferson City	Cole
Miller, Oliver John	St. Louis City	
Miller, Roy Emile	Moberly	Randolph
Miller, Edith Louise	Queen City	Schuyler
Mitchell, Ethlyn Casey	Columbia	Boone
Moore, John Robert	St. Joseph	Buchanan
Moran, Nell	Bloomfield	Stoddard
Muns, Walden Evermont	Montgomery City	Montgomery
Murrill, Daisy May	Cabool	Texas
McCanne, Asa Parker	Montgomery City	Montgomery
McCanse, Katherine Maver	Columbia	Boone
McLemore, Clarence	Greenfield	Dade
Neal, Lily Bell	Kansas City	Jackson
Neale, Mervin Gordon	Thompson	Audrain
Nemoitin, Anna	Luzon, *N. Y.*	
Nesbitt, Neil	St. Joseph	Buchanan
Noe, Minnie Lee	Parnassus, *Pa.*	
Oliver, Lulu Grace	Chillicothe	Livingston
Oliver, Lucile Elizabeth	Nettleton	Caldwell
Paterson, John Shelly	Sedalia	Pettis
Payne, George Calvin	Muskogee, *Okla.*	
Pike, Caroline	Bolivar	Polk
Pirkey, Russell, J	Louisville, *Ky.*	
Powell, Thomas Robert	Hickman, *Ky.*	
Powell, Jno. Benjamin	Maywood	Lewis
Powers, Virginia	Warrensburg	Johnson
Prehn, Katherine Eleanor	Webster Groves	St. Louis
Ravitch, Max	Brooklyn, *N. Y.*	
Read, Verdie Mae	Columbia	Boone
Reed, Letha Cornelia	Columbia	Boone
Reeves, Prentice	Joplin	Jasper
Roadhouse, Amos F	Kingston, *Canada*	
Rockwood, Chas. Ainsworth	Nevada	Vernon
Rollins, James Sidney	Columbia	Boone
Rowland, Eva A	Bevier	Macon

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Rowland, William A.	Bevier	Macon
Rulison, Edgar Richard, Jr.	Muskogee, *Okla.*	—
Rupe, Ova Lee	Carrollton	Carroll
Russel, Ina Charlene	Oregon	Holt
Scates, Silas Erwin	Union City, *Tenn.*	—
Schmidt, Amalia Virginia	Ferguson	St. Louis
Scott, D. R.	Canton	Lewis
Scott, Wilford Hall	Canton	Lewis
Scott, George Samuel	Newport Center, *Vt.*	—
Scott, John Grafton	Columbia	Boone
Sebastian, Mattie Rea	Columbia	Boone
Seneker, Jas. Seehorn	Mindon	Charlton
Settle, Henry Frank	Platte City	Platte
Shaw, John Overton	Harrisburg	Boone
Shelton, Bess Houston	Kansas City	Jackson
Shepard, Olive	Columbia	Boone
Shirkey, Mohler	Norborne	Carroll
Shoptaugh, John Royal	Williamstown	Lewis
Singleton, Susie Estelle	Shelbyville	Shelby
Smith, Eulah Maud	Webb City	Jasper
Smith, William Saul	Little Rock, *Ark.*	—
Smith, Robert DuVal	St. Joseph	Buchanan
Spalding, Julia	Towanda, *Pa.*	—
Speer, Boyd Alten	Chamois	Osage
Springgate, Ada	Washington	Franklin
Stemmons, Walter Campbell	Carthage	Jasper
Stonebreaker, Barnard Hayes	Springfield	Greene
Swindle, Ormund Reid, Jr.	Purdy	Barry
Templin, Joseph	Nevada	Vernon
Thatcher, Lloyd Evans	Oregon	Holt
Thompson, Clara Field	St. Louis City	—
Thompson, Samuel Monroe, Jr.	Clinton	Henry
Tindall, Richard Gentry	Columbia	Boone
Trullinger, Earle Barton	Maryville	Nodaway
Tweedie, Mary Edna	Carrollton	Carroll
VanFossen, Daniel Edison	Humphreys	Sullivan
Votaw, Lorenzo Dow	Eureka	St. Louis
Vrooman, Clyde Leslie	Kansas City	Jackson
Walker, Thomas Lee	Columbia	Boone
Wallace, Elizabeth Stuart	Warrensburg	Johnson
Walther, Lottie Cora	St. Louis City	—
Ware, Eva	Linneus	Linn
Welch, Katherine V.	Columbia	Boone
Wildish, James Elmer	King City	Gentry
Wilkinson, Frank Courtney	Kansas City	Jackson
Williams, Edna Chalmers	Boonville	Cooper

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Williams, Frank Benton	Carthage	Jasper
Williams, Lee Vernon	Sedalia	Pettis
Williams, Frank Lee	Brown's Station	Boone
Wilson, Mark Houser	Kirkwood	St. Louis
Winn, Lula May	St. Joseph	Buchanan
Winscott, Ocie Lee	Columbia	Boone
Wolfe, Kathryne	Jasper	Jasper
Wolfers, Fred Robert	Pickering	Nodaway
Wonsetler, Mae	Cowgill	Caldwell
Wynkoop, Helen Lucile	St. Louis City	
Yantis, Sydney	Ft. Smith, *Ark.*	
Freshman Class.		
Allee, Henry Priest	Olean	Miller
Amerman, Earle Ray	Nevada	Vernon
Ammerman, Nora	Columbia	Boone
Anderson, Dorthy Lucile	Carlinville, *Ill.*	
Anselment, Frank Ray	Ava	Douglas
Arends, Henry Gerhard	Quincy, *Ill.*	
Arey, Benjamin R.	Sedalia	Pettis
Arnold, Marshall	Columbia	Boone
Atterbury, John Clay	Madison	Monroe
Axline, Milford Asa	Nevada	Vernon
Bainum, Inez	Maryville	Nodaway
Baker, Fannie Estelle	Carthage	Jasper
Baldwin, Sallie Harris	Rocheport	Boone
Barkshire, Charles Edwin	Dawn	Livingston
Barman, Nettie Florence	Savannah	Andrew
Barth, Paul Arnold	Columbia	Boone
Batterton, Willie Pearl	Columbia	Boone
Bayley, Minnie Belle	Columbia	Boone
Bell, Raymond	Hunnewell	Shelby
Bennett, James Percy	Freeman	Cass
Benton, Mary Zoe	Higginsville	Lafayette
Benua, Albert Roy	Carthage	Jasper
Berger, Mrs. H. W.	Columbia	Boone
Birdsong, H. Ellis	Clarksburg	Moniteau
Bishop, Phoebe Eleanor	Columbia	Boone
Bishop, Mabel Leona	Odessa	Lafayette
Blair, Girard	Sedalia	Pettis
Boggs, Forest Lenoir	Huntsdale	Boone
Bond, Mary Kathryn	Kansas City	Jackson
Bowles, Roscoe Flournoy	Norborne	Carroll
Boyce, Vallie	Columbia	Boone
Bridges, Annie Allyn	Lamar	Barton

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Brown, Georgie Anna	Ethlyn	Lincoln
Brown, Claudius Adolphus	Rich Hill	Bates
Bryant, Helen	Independence	Jackson
Bryant, Vaughn	Kansas City	Jackson
Buns, Alice H	Kansas City	Jackson
Burgess, Nellie Belle	Columbia	Boone
Butts, Birdie Moneta	Augusta	Butler
Campbell, Robt. Eakin	Columbia	Boone
Cantlin, Walter Lee	Mound City	Holt
Carter, Margaret Elisabeth	Columbia	Boone
Carter, John	Carthage	Jasper
Carter, Lydia Frances	Rutledge	Scotland
Castilo, Lola Leland	Howell	St. Charles
Chandler, Martha H	Columbia	Boone
Charboneau, Arthur Charles	Richwoods	Washington
Chasnoff, Joseph Edwin	Sedalia	Pettis
Childers, Elihu Read	Troy	Lincoln
Chilton, Bertha Cash	Frankford	Pike
Clark, Fay	Neosho	Newton
Clark, James Bennett	Hallsville	Boone
Clausen, Adelia Betzler	Carrollton	Carroll
Clausen, Erwin Werner	Carrollton	Carroll
Clemmons, Walter Louis Quincy	Carthage	Jasper
Cleveland, Clyde W	Louisiana	Pike
Clifford, Chas. Alfred	College Mound	Macon
Cogdill, Eva	Lamar	Barton
Collier, William Harrison	Bertrand	Mississippi
Comann, David Henry	St. Charles	St. Charles
Combs, Errett T	Kansas City	Jackson
Coonts, Lucy Agnes	Vandalia	Audrain
Cooper, Mattie	Gallatin	Daviess
Cowan, Leslie	Boston, *Mass.*	
Crawford, Edith Pearl	Marceline	Linn
Crewdson, Malinda Catherine	Louisiana	Pike
Criswell, Elijah Harry	Everton	Dade
Crockett, Arlie	Centralia	Boone
Cullar, Harry Cecil	Eldorado Springs	Cedar
Dale, Newton	Weston	Platte
Davidson, Mary Aileen	Hannibal	Marion
Davis, Lora	Columbia	Boone
Davis, George Fred	Bowling Green	Pike
Davis, Don Raleigh	Lowell, *Ark.*	
Dennis, Imogene	Chillicothe	Livingston
Devaul, Adelbert	Lakenan	Shelby
Dorsey, Clementina M	Columbia	Boone
Draffen, Louise Tichenor	Columbia	Boone

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Drake, Oscar McNeely	Tecumseh, *Okla.*	
Drane, Harry Judson	Charleston	Mississippi
Eckel, Edward Henry, Jr	St. Joseph	Buchanan
Edwards, Walter Lee	Pineville	McDonald
Elkins, S. Downing	Columbia	Boone
Elsea, Earle Newton	Marshall	Saline
Elsner, Harry Lambert	Sweet Springs	Saline
Epperson, Charles Albert	Axtell	Macon
Essig, Roy R	Plattsburg	Clinton
Estill, Jas. Robert	Sedalia	Pettis
Evans, Harry E	Lockwood	Dade
Eversole, Ruth	Potosi	Washington
Eyman, Jessie	Kansas City	Jackson
Fansler, Walter A	Sedalia	Pettis
Farrar, Florine Marie	Lebanon	Laclede
Farrell, Henry Clark	Bowling Green	Pike
Felgate, Edward	Columbia	Boone
Ficklin, Frank Baker	Moberly	Randolph
Fidler, Mona Leta	Norborne	Carroll
Fillmore, Harrison Morton	Joplin	Jasper
Fink, Chio	Bloomfield	Stoddard
Fisher, Harry Gordon	King City	DeKalb
Fisher, Lida	Columbia	Boone
Fleming, Thos. Simpson	Moberly	Randolph
Foster, Florine Forsythe	Neosho	Newton
Frank, Malcolm I	Bowling Green	Pike
Franken, Katherine Anna	Norborne	Carroll
Franken, Margaret Mary	Norborne	Carroll
Freet, Mary Lillian	Columbia	Boone
Gale, Elva Fern	West Plains	Howell
Garrett, Anna Emilie	Pierce City	Lawrence
Garrison, Homer Austin	Bethel	Shelby
Gentry, Laura Dorcas	Sedalia	Pettis
Gibbs, Rose Spencer	Columbia	Boone
Gibson, Phil Sheridan	Grant City	Worth
Girdner, L. Cleo	Princeton	Mercer
Glenn, Allen Bristol	Harrisonville	Cass
Gordon, Julia Murle	Columbia	Boone
Gregg, Fred B	St. Joseph	Buchanan
Hackney, Earl Newell	Carthage	Jasper
Hall, Woods	Jefferson City	Cole
Hankins, Katherine	Kansas City	Jackson
Harrelson, Martha Bracken	Belton	Cass
Hawkins, Bessie Hudson	Columbia	Boone
Haworth, Charlotte Mary	Moberly	Randolph
Haymes, Albert Howard	Marshfield	Webster

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Headley, Ezekiel Ward, Jr.	Oregon	Ho
Hepler, Ilah	Ft. Scott, *Kans.*	
Hersch, Sophie	Braile, *Roumania*	
Hill, Pattie B.	Columbia	Boone
Hilliard, Mabel Irene	Bates City	Lafay
Hin, Wong	Columbia	Boone
Hinote, Elizabeth	Gentry	Gen
Hobart, Norman Edward	Kansas City	Jackso
Hoffman, Carl Spencer	Sedalia	Pet
Hogue, Preston Bonner	Eolia	Pik
Holt, Lula.	Maryville	Nodaw
Hughes, William Hardin	Albany	Gentry
Hulett, William Hatton	Columbia	Boone
Humphrey, William Richardson	St. Louis City	
Hutchison, Susie Alma	Vandalia	Audrain
Idler, Arthur	St. Louis City	
Jadwin, D. Oneita	Columbia	Boone
Jarman, Fay Elijah	Unionville	Putnam
Jesse, William Polk	Columbia	Boone
Jolley, Harold Taylor	St. Louis City	
Johnson, Abbie	Kansas City	Jackson
Jones, Lloyd Edmonstone	Columbia	Boone
Jones, DeWitt Allen	Pleasant Hill	Cass
Jordan, George Flowers	Stanberry	Gentry
Kearney, Clytie Hazel	Columbia	Boone
Kelsey, Henry Kimbrough	Veve	Vernon
Kelso, Arthur D.	Joplin	Jasper
Kerwin, John Arbor, Jr.	Chester, *Ill.*	
*Kieffer, Theo. Easley	St. Louis City	
Killian, Cletus Hugo	Perryville	Perry
Knipschild, Mabel Louise	Norborne	Carroll
Kopelman, Herman Glarstein	Joplin	Jasper
Kruse, Theophile Karl Theodore	Sappington	St. Louis
Kurozawa, Fred Shima	Shimonita, *Japan*	
Ladd, Arthur K.	Sherman, *Texas*	
Lagermann, Alfred Fred	Chamois	Osage
Laird, Ray Alvis	Vandalia	Audrain
Lanphear, Orin Walter	St. Louis City	
Latshaw, Constance	Kansas City	Jackson
Latshaw, Ralph Steele, Jr.	Kansas City	Jackson
Leedom, Aurora Fansler	Columbia	Boone
Leggett, Raymond Fletcher	Carthage	Jasper
Leighton, Edith May	St. Louis City	
Leitch, May L.	Kansas City	Jackson
Leslie, George Edgar, Jr.	Memphis	Scotland

*Died in St. Louis, October, 1907.

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Levis, Edwin Irving	St. Louis City	
Levitt, Samuel,, Jr	St. Louis City	
Levy, Ernest Manuel	King City	Gentry
Lewis, Henry Guy	Rucker	Boone
Lockwood, Sara Lawrence	Columbia	Boone
Logan, Susie Lee	Laddonia	Audrain
Long, Ethel Grace	Sedalia	Pettis
Longmore, Myrtle M	Sedalia	Pettis
Lowery, Mary Emma	Columbia	Boone
Lycan, Donald H	Edina	Knox
Lyda, Paul Caswell	Columbia	Boone
Lyon, Gertrude	Columbia	Boone
Magruder, Porter Elias	Columbia	Boone
Marquis, Mabel	Kansas City	Jackson
Martin, Donnis	Eldorado Springs	Cedar
Martin, Gladys	Eldorado Springs	Cedar
Martin, Ralph W	Lamar	Barton
Matthews, Mary Paxton	Columbia	Boone
Mecker, Herman Heinrich	Perryville	Perry
Meyer, Raymond John	Kahoka	Clark
Miller, Guthrie McNab	Columbia	Boone
Miller, Max Mayo	Mound City	Holt
Miller, Jessie Dewey	Jefferson City	Cole
Miller, Emma Briggs	Boonville	Cooper
Miller, Chester Clay	Jefferson City	Cole
Missmann, Ralph H	Columbia	Boone
Missmann, Harry Daniel	Columbia	Boone
Mitchell, James Roscoe	Nevada	Vernon
Mitchell, Richard Bland	Springfield	Greene
Mitchell, Reta	Albany	Gentry
Moles, Aubria Harold	Clarksburg	Moniteau
Monk, Dudley Connor	Tishomingo, *Okla.*	
Monroe, Nellie	Kansas City	Jackson
Moore, G. Mildred	St. Louis City	
Moore, Philip A	St. Louis City	
Morris, Pearl	Mexico	Audrain
Mossman, Hugh	Vinton, *Iowa*	
Murray, Belle Meade	Kansas City	Jackson
McAntire, John William	Joplin	Jasper
McBride, Linn F	Webb City	Jasper
McBride, Mildred Knox	Marshall	Saline
McClure, Mabel Byron	Nevada	Vernon
McClure, John Wesley, Jr	Hughesville	Pettis
McCubbin, Clarence Ray	Kansas City	Jackson
McCubbin, Donald Lingan	Carthage	Jasper
McGill, Helen Louise	Lebanon	Laclede

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
McIntire, Harry	Hopkins	Nodaway
McVay, Donald C	Trenton	Grundy
McVeigh, Ruby Florence	St. Louis City	
Neal, I. Captola	Vandalia	Audrain
Nee, Daniel Martin	Springfield	Greene
Nelson, Edgar Leroy	Green Ridge	Pettis
Netherland, Wm. Wood	Center	Ralls
Newman, Jessie Ruth	Ft. Scott, *Kans.*	
Nolle, Alfred Henry	St. Charles	St. Charles
Norris, Samuel Reily	Shamrock	Callaway
Norris, Lola Mildred	Columbia	Boone
Northcutt, Clara	Centralia	Boone
Norvell, Mary Edna	Gilliam	Saline
Orme, W. Sidney	Kansas City	Jackson
O'Toole, Alice Maria	Calhoun	Daviess
Parkinson, Ben	Wagoner, *Okla.*	
Pattrick, John Hessie	Higbee	Randolph
Paxton, Matthew White	Independence	Jackson
Paxton, Mary Gentry	Kansas City	Jackson
Pennington, Ethel LaDiese	Columbia	Boone
Pennington, Ola Mae	Columbia	Boone
Phillips, Ruth	Kansas City	Jackson
Philpott, Charles Hughes	Madison	Monroe
Porter, Edward Winslow	Lathrop	Clinton
Portner, Louis Jackson	St. Louis City	
Powell, Fred	Caruthersville	Pemiscot
Prather, Harry Lee	Odessa	Lafayette
Price, Kathryn	St. Joseph	Buchanan
Priestley, Alger Paul	Windsor	Henry
Primen, Roy Lee	Hannibal	Marion
Rankin, Gordon Henry	Higbee	Randolph
Rankin, Tom Volney	Russellville, *Ark.*	
Remley, Ethel May	Columbia	Boone
Reynolds, Virginia	Caruthersville	Pemiscot
Rice, Henry, Jr	St. Louis City	
Richardson, Alice E	Kansas City	Jackson
Riley, Oscar Edwin	Richmond	Ray
Ristine, Carl Lindner	Joplin	Jasper
Roberts, Goldie Dolores	Hallsville	Boone
Robertson, Virginia E	Kansas City	Jackson
Robnett, David Barton	Columbia	Boone
Rodgers, Clarence C	Columbia	Boone
Ross, Helen	Independence	Jackson
Ross, Lucius G	Versailles	Morgan
Ross, Margaret Bradford	Stanberry	Gentry
Rowell, Benj. H	Brookfield	Linn

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Rudd, Ada Beatrice	Jefferson City	Cole
Rugg, Julia Miller	Independence	Jackson
Sack, Leo Romansky	Greenville, *Miss.*	
Salmons, Arlie	Columbia	Boone
Sanford, Polly	Paris	Monroe
Sanger, Minnie Elton	Nevada	Vernon
Savage, Etta Virginia	Maysville	DeKalb
Schooler, Mary Agnes	Carthage	Jasper
Sebastian, Henry Garner	Columbia	Boone
Sell, James Herbert	Ava	Douglas
Settle, Besse	Centralia	Boone
Shapley, Harlow	Jasper	Jasper
Shepherd, Joy Clinton	Springfield	Greene
Sheppard, Henry E	Rich Hill	Bates
Sherman, Jessie M	Columbia	Boone
Sherman, Daniel Warren	Lexington	Lafayette
Sherrick, Charles Harris	Loraine, *Ill.*	
Short, Robert Rogers	Versailles	Morgan
Simmons, Sterling Price	Boonville	Cooper
Simms, Julia Anna	Kansas City	Jackson
Simrall, Dorothy Ruth	Sweet Springs	Saline
Smith, Herbert Warren	Vandalia	Audrain
Smith, Bessie Yonge	Columbia	Boone
Smith, Ossino Cecil	Columbia	Boone
Snapp, Delbert D	King City	Gentry
Sneed, Carrie	Smithton	Pettis
Snellings, Opal Sue	Columbia	Boone
Snider, Maggie Jane	Belton	Cass
Snodgrass, Laura Elizabeth	Kansas City	Jackson
Spragg, Lloyd G	Ridgeway	Harrison
Springer, Mary Hortense	West Plains	Howell
Stewart, Francis	Chillicothe	Livingston
Stickney, Walter Thomas	Carthage	Jasper
Stidham, Jacob Haller	Columbia	Boone
Stone, Harry Benjamin	Macon	Macon
Stowers, James Evans	Columbia	Boone
Stuart, L. Maud	Columbia	Boone
Sturtevant, Mabel Eugenia	Columbia	Boone
Sumner, Clarence W	Noblesville, *Ind.*	
Swift, Charles Henry	Syracuse, *N. Y.*	
Swindle, Percy Ford	Purdy	Barry
Talbert, Dorothy Louise	Kansas City	Jackson
Tate, Lee Harry	St. Louis City	
Thomas, Pearle Eberdine	St. Joseph	Buchanan
Tobien, Earl Walker	Seneca	Newton
Toner, Helen	St. Louis City	

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Trieseler, Louis Ernst	St. Louis City	
Turner, Alma Leora	Conway	Laclede
Udstad, Elevera Marie	St. Charles	St. Charles
Underriner, Harry Theodore	Fredericktown	Madison
Vanderveer, M. Howard	King City	Gentry
Vandiver, Lillian Willard	Columbia	Boone
Vandiver, Helen Louise	Columbia	Boone
VanHook, Anna	Ferguson	St. Louis
VanIdom, Twyla	Carterville	Jasper
Varney, Grace Dalton	St. Louis City	
Vogel, Victoria Marguerite	Muskogee, *Okla.*	
Vogt, Clarence Guy	Stanberry	Gentry
Wade, Isabella M.	Cedar City	Callaway
Wade, Nannie E.	Cedar City	*Callaway*
Walker, Elizabeth Mount	Columbia	Boone
Walker, Agnes	Columbia	Boone
Wallace, Lillian Mae	Ft. Smith, *Ark.*	
Wallace, Hilen Ketcham	St. Joseph	Buchanan
Ware, Catherine Adams	Kansas City	Jackson
Ware, Grace M.	Columbia	Boone
Ware, James G.	Columbia	Boone
Warren, Doctor Franklin, Jr.	Trenton	Grundy
Waugh, Irene Agnes	St. Louis City	
Waugh, Adele Margaret	St. Louis City	
Weaver, David Milroy	Louisiana	Pike
Webb, Violet Mignon	Norborne	Carroll
Weis, George Cornelius	Lexington	Lafayette
Welch, Eva Bernice	Stanberry	Gentry
Welch, Lila Merle	Stanberry	Gentry
Wells, Nellie Katherine	Hickman Mills	Jackson
Welsh, Halsey May	Kansas City	Jackson
Whitney, Mabel Marie	Rich Hill	Bates
Wikoff, Lida	Chillicothe	Livingston
Wilhite, Serlena Taylor	Kansas City	Jackson
Wilkes, Eleanor Champion	Columbia	Boone
Wilkes, Maysel	Caruthersville	Pemiscot
Williams, Mary Berry	Belton	Cass
Wilson, Randall	Bethany	Harrison
Windsor, John Horace	Boonville	Cooper
Withers, Adeline Arretta	Columbia	Boone
Wolff, Ralph Goldman	St. Louis City	
Wood, Virgil A.	Kansas City	Jackson
Wood, Frank Chipman	Appleton City	St. Clair
Wright, Vest Charles	Columbia	Boone
Wright, Paul E.	Appleton City	St. Clair
Wylie, Annette M.	Forest City	Holt

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Special Students.		
Barth, Mrs. Gus	Columbia	Boone
Beauchamp, Mrs. Pearl	Fulton	Callaway
Berry, Ellen Louise	Columbia	Boone
Campbell, Mrs. Minnie S. E	Marshall	Saline
Campbell, John Claude	Montrose	Henry
Campbell, Laura Belle	Columbia	Boone
Chandler, Mrs. Nancy C	Columbia	Boone
Coursault, Mrs. Edith Snyder	Columbia	Boone
Day, Clara Helen	Ottumwa, *Iowa*	
Denny, Frances Laura	Kansas City	Jackson
Erwin, Samuel Nathaniel	Houston	Texas
Essex, Mrs. Lou R	Lamar	Barton
Eves, Bertha	Columbia	Boone
Feaster, Jas. Francis	Windsor	Henry
Fessenden, Mrs. E. A	Columbia	Boone
Gentry, Mrs. R. W	Columbia	Boone
Hartwell, Marion Wheeler	Boston, *Mass.*	
Hedrick, Stella Blanche	Columbia	Boone
Heidt, Thos. Johannes	Everly, *Iowa*	
Holloway, Susan Caroline	Columbia	Boone
Jordan, Blanche	Columbia	Boone
Kennedy, Sabra Eleanor	Columbia	Boone
Kurtz, Louise Lenoir	Columbia	Boone
Lane, Grace	Hudson, *Mich.*	
Lanphear, Mrs. Emory	St. Louis City	
LeCompte, Myrtle	Pierce City	Lawrence
Lusk, Ben Lafayette	Bunceton	Cooper
Macfarlane, Mrs. Alice Orear	Columbia	Boone
McKittrick, Frank Marion	Norman, *Okla.*	
Palmer, Mrs. Mattie Smith	Columbia	Boone
Pearson, Arthur E	Lexington, *Tenn.*	
Peck, Mrs. Harvey W	Columbia	Boone
Phillips, Mrs. Ada Ewin	Fayette	Howard
Price, Emily	St. Joseph	Buchanan
Schultz, Mrs. W. H	Columbia	Boone
Schultz, Edward J	Akron, *Ohio*	
Shackell, Leon Francis	Mt. Pulaski, *Ill.*	
Shantz Homer LeRoy	Columbia	Boone
Sommers, Charles Max	Racine, *Wisc.*	
Stewart, Ida Margaret	St. Louis City	
Stone, Mrs. Guy J	Walton, *Kans.*	
Sunderland, Ethel G	Cleveland, *Ohio*	
Wagner, Roy Garland	Knobnoster	Johnson
Weiss, Albert Paul	St. Louis City	
Welch, Mrs. Florence Dorsey	Columbia	Boone

COLLEGE OF ARTS AND SCIENCE—Continued.

Name.	Postoffice.	County.
Welch, Austin Hubbard	Columbia	Boone
Willis, Blanche	Waverly, *Ala.*	——
Wright, Herman Micah	Columbia	Boone

Teachers College.

Name.	Postoffice.	County.
Senior Class.		
Allen, Grace Lillian	Dadeville	Dade
Baker, Bettie May	Columbia	Boone
Barbee Frederick Hurdman	Nevada	Vernon
Barnett, Carrie	Columbia	Boone
Beamer, Maude	Lamar	Barton
Bell, Elizabeth Lucile	Monroe City	Monroe
Benton, Carolyn Belle	Higginsville	Lafayette
Blythe, Mary Eva	Mexico	Audrain
Brasfield, Elizabeth	Unionville	Putnam
Bray, Willis Joseph	Fredericktown	Madison
Brightman, Samuel Charles	Lancaster	Schuyler
Colvin, George Henry	Mendon	Chariton
Compton, Maude Fisher	Independence	Jackson
Cook, Jennie	Centralia	Boone
Cross, Mary Thompson	Columbia	Boone
Crow, Clara	Cincinnati, *Iowa*	
Dimmitt, Bertha	Shelbyville	Shelby
Edwards, Rachel	Centralia	Boone
Fair, Bessie S.	Trenton	Grundy
Ferris, Elizabeth Reed	Moberly	Randolph
Frakes, Susie Henderson	Columbia	Boone
Hardinger, Clerc Temple	Civil Bend	Daviess
Harrison, Albert Grant	Collinsville, *Texas*	
Heck, Gertrude	California	Moniteau
Holt, Althea Erna	Columbia	Boone
Ingalls, Mrs. Nellie	Columbia	Boone
Jesse, Caroline Elizabeth	Columbia	Boone
Jones, Roxana Howard	Sorrel	Sullivan
Jones, Ada Magee	Roanoke	Howard
Kingsbury, Laura Mabel	Columbia	Boone
Kleeman, Eleanor	Kansas City	Jackson
Lee, Edgar Desmond	Rush Hill	Audrain
Marquis, Eva Malvena	Kansas City	Jackson

TEACHERS COLLEGE—Continued.

Name.	Postoffice.	County.
Marshall, Della Esther	Kansas City	Jackson
Moore, Ethel Clare	Trenton	Grundy
Nesbitt, Ethel Amanda	St. Joseph	Buchanan
Newomer, Harriet Elizabeth	Parkville	Platte
Otis, Rachel T. D	Hopkins	Nodaway
Owen, Laura Frances	Paradise	Clay
Parker, Edith	Columbia	Boone
Phillips, Harry Ashton	Bates City	Lafayette
Pickrell, Frances Gertrude	St. Louis City	
Quinn, Effie Roberta	Columbia	Boone
Rodes, Thula	Kansas City	Jackson
Schonfield, Mabelle	St. Louis City	
Schwabe, Laura Jo	Columbia	Boone
Sievers, John Frederick	Marion, *Kansas*	
Singleton, Martha Reed	Shelbyville	Shelby
Sneed, Carl Miller	Columbia	Boone
Snyder, Joseph Conway	Kirkwood	St. Louis
Spangler, Kathryn E	Clinton	Henry
Stickerod, Lydia Adeline	Rockport	Atchison
Talpey, Charlott Abigail	Kansas City	Jackson
Taylor, Susan Shelby	Columbia	Boone
Trotter, Florence	Kansas City	Jackson
Turpin, Mabel Lee	Nevada	Vernon
Weeks, Eula Adeline	Butler	Bates
Wharton, Mary	Columbia	Boone
Wolff, Lucy Henrietta	Kansas City	Jackson
Junior Class.		
Allen, Edith Frances	Chicago, *Ill.*	
Barkley, Bennetta Maude	Mexico	Audrain
Bell, Louis Albert	St. Louis City	
Bonnett, Clarence Elmer	Gallatin	Daviess
Bowman, Henrietta Marr	Kansas City	Jackson
Caldwell, Minnie Wilford	Columbia	Boone
Cannell, Grace	Hatton	Callaway
Carter, Jessie Lee	Columbia	Boone
Cho, Toda	Tochigi, *Japan*	
Clarahan, Mamie Margaret	Harper, *Iowa*	
Cole, Frances Cleveland	Columbia	Boone
Colonius, Julius Linus	Columbia	Boone
Compton, Ross N	Dexter	Stoddard
Creswell, Alberta	Kansas City	Jackson
Cunningham, Ethel Belle	Columbia	Boone
Davis, Clara	Columbia	Boone

TEACHERS COLLEGE—Continued.

Name.	Postoffice.	County.
Dick, Christine	St. Louis City	
Evans, Ernest Roper	Armstrong	Howard
Faller, Jessie Catherine Margaret.	Brunswick	Chariton
Foglesong, Clara Magdalene	Columbia	Boone
Ford, Mary Frances	Columbia	Boone
Garnett, Bessy May	Columbia	Boone
Garrison, Noble Lee	Bethel	Shelby
Geery, Edith Ursula	Warrensburg	Johnson
Hanna, Mary Alice	Trenton	Grundy
Hartley, Edith Elizabeth	Eureka, *Indiana*	
Helm, Katherine Mary	Hannibal	Marion
Helm, Florence	Hannibal	Marion
Hildebrand, Mary Blanche	Columbia	Boone
Howat, Lela Jean	Clarksville	Pike
Ingrum, Dora Louvenia	Columbia	Boone
Ingrum, Alpha Elverto	Columbia	Boone
Jackson, Andrew, Jr	Carrollton	Carroll
Johnson, Roy Ivan	Princeton	Mercer
Johnson, Lillian	Columbia	Boone
Keene, Mary Lucile	Columbia	Boone
Kline, Bessie Mabel	Savannah	Andrew
Morsell, Caroline	St. Louis City	
Moss, Juliette	Columbia	Boone
Murrill, Daisy May	Cabool	Texas
McClure, Myrtle Olive	Webster Groves	St. Louis
McCune, Jean	Bowling Green	Pike
McKee, Clarence A	Indiana, *Penn.*	
Pearse, Faith	Kansas City	Jackson
Phillippi, Mrs. Phoebe K	Rockport	Atchison
Price, Elizabeth Johnson	Mexico	Audrain
Remley, Winifred Mary	Columbia	Boone
Renz, Elenora	Weston	Platte
Riddle, Charles Franklin	Kingston	Caldwell
Roberts, Ansley Hope	Hallsville	Boone
Robinson, Ophelia Lyda	Hallsville	Boone
Roby, Grace Dell	Rocheport	Boone
Sanborn, Edith Ellen	Macon	Macon
Scrutchfield, Irene E	Excello	Macon
Seley, Genevieve Mary	Columbia	Boone
Shaver, Mary Winters	Plattsburg	Clinton
Shoemaker, Floyd C	Bucklin	Linn
Smith, Frances Margaret	Maryville	Nodaway
Smith, Ina V	Louisiana	Pike
Spicer, Inez	Columbia	Boone
Starin, Genevieve Alida	Columbia	Boone
Steele, Stella Elizabeth	Columbia	Boone

TEACHERS COLLEGE—Continued.

Name.	Postoffice.	County.
Stone, Sue Gertrude	Boonville	Cooper
Swainson, Anna Elizabeth	Nevada	Vernon
Timmons, Winnie	Columbia	Boone
Ware, Eva	Linneus	Linn
White, Mrs. Walter E.	Columbia	Boone
Wildish, James Elmer	King City	Gentry
Wilhite, Cordelia Mitchell	Columbia	Boone
Williams, Olive Dugan	Clay City, *Ill.*	
Sophomore Class.		
Anderson, Sara Edmonds	Columbia	Boone
Beamer, Roxa	Lamar	Barton
Boggess, Eula Elizabeth	Excelsior Springs	Clay
Brown, Mary Efale	Kansas City	Jackson
Chittenden, Edward Wilson	Clinton	Henry
Colwell, Elmira Edna	St. Louis City	
Comer, Arthur Oliver	Columbia	Boone
Coon, Bonnie Lee	Trenton	Grundy
Covington, Sibyl Violet	Dexter	Stoddard
Crossan, Charlene E.	Bethany	Harrison
Davenport, Sara Jeannette	Columbia	Boone
Edwards, Jessie McAlester	Columbia	Boone
Eells, Isadore	Webb City	Jasper
Fischer, Christine Cora	Sedalia	Pettis
Ford, Lester R.	Rich Hill	Bates
Fowlkes, Ruby Frances	Parma	New Madrid
Glasgow, George Winfield	Macon	Macon
Gordon, Mabel Grace	Columbia	Boone
Grace, Frances Mabel	Emory, *Texas*	
Gray, Minnie	Frazier	Buchanan
Griffith, Anna Evans	Watson	Atchison
Grouse, Gladys Ethelyn	Chillicothe	Livingston
Haas, Edna Eugenie	Stanberry	Gentry
Hansen, Hilda	Harlem	Clay
Hankins, Katherine	Kansas City	Jackson
Harper, Xemenia Y. Zyx	Butler	Bates
Haun, Grace	Iola, *Kansas*	
Hays, Eleanor Bessie	Columbia	Boone
Hedges, Mrs. Ina	Purdin	Linn
Heins, Albert	Cameron	Clinton
Howell, Florence	Hallsville	Boone
Ingels, Calibel	Columbia	Boone
Isbell, Mary Mildred	Washington	Franklin
Jones, Ira	Eldorado Springs	Cedar
Jones, Asenath Mary	Roanoke	Howard

TEACHERS COLLEGE—Continued.

Name.	Postoffice.	County.
Kirk, George Washington	Bethany	Harrison
Kunkel, Louis Otto	Mexico	Audrain
Leaphart, Sada Frances	Brookfield	Linn
Letts, Mary Elizabeth	Sedalia	Pettis
Logan, Mary Shepherd	Hannibal	Marion
Loomis, Charles Francis	St. Louis City	
Mann, Helen	Gallatin	Daviess
Miller, Roy Emile	Moberly	Randolph
Miller, Margaret Emma	Rush Hill	Audrain
Miller, Frances Howe	Jefferson City	Cole
Moran, Nelle	Bloomfield	Stoddard
Neale, Mervin Gordon	Thompson	Audrain
Nemoitin, Anna	Luzon, *New York*	
Nesbitt, Neil	St. Joseph	Buchanan
Oliver, Lucile Elizabeth	Nettleton	Caldwell
Oliver, Lula Grace	Chillicothe	Livingston
Patterson, S. Esther	Central City, *Neb*	
Powell, Charles Albert	Macon	Macon
Prehn, Katherine Eleanor	Webster Groves	St. Louis
Read, Verdie Mae	Columbia	Boone
Reed, Letha Cornelia	Columbia	Boone
Scates, Silas Erwin	Union City, *Tenn*	
Schmidt, Amalia Virginia	Ferguson	St. Louis
Shaw, John Overton	Harrisburg	Boone
Singleton, Susie Estelle	Shelbyville	Shelby
Smith, Eula Maude	Webb City	Jasper
Snow, Charlotte Ann	Sedalia	Pettis
Springgate, Ada	Washington	Franklin
Thom, Mary Lee	Columbia	Boone
Tweedie, Mary Edna	Carrollton	Carroll
Walker, Nellie Odille	Macon	Macon
Winn, Lulu May	St. Joseph	Buchanan
Winscott, Ocie Lee	Columbia	Boone
Wolfe, Kathryne	Jasper	Jasper
Wynkoop, Helen Lucile	St. Louis City	
Freshman Class.		
Baker, Fannie Estelle	Carthage	Jasper
Barman, Nellie Florence	Savannah	Andrew
Benton, Mary Zoe	Higginsville	Lafayette
Blair, Angeline Louise	Breckenridge	Caldwell
Bridges, Annie Allyn	Lamar	Barton
Burgess, Nellie Belle	Columbia	Boone
Canny, Elenore Kathryn	Kansas City	Jackson
Chilton, Mary Virginia	Frankford	Pike

TEACHERS COLLEGE—Continued.

Name.	Postoffice.	County.
Chilton, Bertha Cash	Frankford	Pike
Cook, Mabel Ruth	Plattsburg	Clinton
Coontz, Lucy Agnes	Vandalia	Audrain
Davis, Mamie Bowen	Mexico	Audrain
Dennis, Imogene	Chillicothe	Livingston
Elsea, Earle Newton	Marshall	Saline
Fidler, Mona Leta	Norborne	Carroll
Fink, Chlo	Bloomfield	Stoddard
Frampton, Lela May	Lamar	Barton
Franken, Kathrine Anna	Norborne	Carroll
Franken, Margaret Mary	Norborne	Carroll
Freet, Mary Lillian	Columbia	Boone
Garrett, Anna Emiline	Pierce City	Lawrence
Garton, Lulu Ethel	Caney, *Kansas*	
Gentry, Laura Dorcas	Sedalia	Pettis
Gibbs, Rosa Spencer	Columbia	Boone
Hawkins, Bessie Hudson	Columbia	Boone
Herring, Flora Abbott	Columbia	Boone
Hilliard, Mabel Irene	Bates City	Lafayette
Holloway, Emma Belle	Columbia	Boone
Holt, Lula	Maryville	Nodaway
Hornby, Claire Imogene	St. Louis City	
Horner, Shirley Goodwin	Alma	Lafayette
Hutchison, Susie Alma	Vandalia	Audrain
Jones, Ruth	Columbia	Boone
Kearney, Clytie Hazel	Columbia	Boone
Lagemann, Alfred Fred	Chamois	Osage
Leighton, Edith May	St. Louis City	
Leitch, Mary L	Kansas City	Jackson
Lewis, Henry Guy	Rucker	Boone
Longmore, Myrtle M	Sedalia	Pettis
Marquis, Mabel	Kansas City	Jackson
Miller, Chloe Blanche	Kahoka	Clark
Moore, Grace Milford	St. Louis City	
McClanahan, Frances Evelyn	Columbia	Boone
McGill, Helen Louise	Lebanon	Laclede
McVeigh, Ruby Florence	St. Louis City	
Neal, L Captola	Vandalia	Audrain
Nolle, Alfred Henry	St. Charles	St. Charles
Norvell, Mary Edna	Gilliam	Saline
O'Toole, Alice Maria	Calhoun	Daviess
Price, Kathryn	St. Joseph	Buchanan
Remley, Ethel May	Columbia	Boone
Roberts, Goldie Dolores	Hallsville	Boone
Robertson, Virginia E	Kansas City	Jackson

TEACHERS COLLEGE—Continued.

Name.	Postoffice.	County.
Ross, Helen	Independence	Jackson
Rugg, Julia Miller	Independence	Jackson
Sanford, Polly	Paris	Monroe
Short, Robert Rogers	Versailles	Morgan
Springer, Mary Hortense	West Plains	Howell
Swain, Eva Lena	Carthage, *Ill.*	
Thomas, Pearle Eberdine	St. Joseph	Buchanan
Toner, Helen	St. Louis City	
Thurston, Evangeline	Columbia	Boone
VanHook, Anna	Ferguson	St. Louis
Wallace, Lillian Mae	Ft. Smith, *Ark.*	
Waugh, Irene Agnes	St. Louis City	
Waugh, Adele Margaret	St. Louis City	
Webb, Violet Mignon	Norborne	Carroll
Welch, Eva Bernice	Stanberry	Gentry
Welch, Lila Merle	Stanberry	Gentry
White, Edna Virginia	Moberly	Randolph
Wilkes, Eleanor Champion	Columbia	Boone
Wilkes, Maysel	Caruthersville	Pemiscot
Williams, Zulu Ethel	Lamar	Barton
Wood, Jessie Adeline	Kansas City	Jackson
Special Students.		
Barnett, Mattie	Columbia	Boone
Biggs, Josephine	Bowling Green	Pike
Blair, Emily Hockaday	Chicago, *Ill.*	
Casady, Blanche E.	Cantrill, *Iowa*	
Cash, Ruby	Frankford	Pike
Childers, Mrs. L. F.	McFall	Gentry
Cockefair, Laura Louise	Unionville	Putnam
Comer, George Paul	Ravanna	Mercer
Gillaspy, Nora	Columbia	Boone
Gribble, Lois	Columbia	Boone
Jenkins, Clella	Holliday	Monroe
Meritt, Mattie C.	Rhineland	Montgomery
Parker, Mrs. Margaret K.	Columbia	Boone
Patterson, Martha Leanore	Columbia	Boone
Putnam, Mrs. Eleanore B.	Columbia	Boone
Reed, Ethel Edna	Columbia	Boone
Senour, Edith Kathryn	Pasadena, *Cal.*	
Thurman, Zula Zong	Troy	Lincoln
Turner, Edna Lillian	Sturgeon	Boone
Wilcox, Nina Gay	Ashland	Boone
Young, Daisy	Springdale, *Ark.*	

College of Agriculture and Mechanic Arts.

A.—School of Agriculture.

Name.	Postoffice.	County.
Senior Class.		
Allen, Archibald Murray	Columbia	Boone
Bell, Lewis Benton	Monroe City	Monroe
Carothers, William Jackson	Excelsior Springs	Clay
Cochran, Turner Cleveland	Columbia	Boone
Cockefair, William Raymond	Unionville	Putnam
Coe, Montelle Galbreath	San Francisco, *Cal.*	
Doane, Duane Howard	Joplin	Jasper
Dow, Simon David	Georgetown	Pettis
Howard, Robert Francis	Brookline	Greene
Hutchison, Claude Burton	Chillicothe	Livingston
Keithby, Joseph Rayburn	Bowling Green	Pike
Knudson, Lewis	Milwaukee, *Wis.*	
Krusekopf, Henry Hermann	Chamois	Osage
Lillard, Lafayette	Columbia	Boone
Lockwood, Charles Clyde	Columbia	Boone
Mason, Ralph Hedges	Mexico	Audrain
McCool, Morris Mickey	Kirksville	Adair
Reed, Ollie Ezekiel	Moberly	Randolph
Rusk, Henry Perly	Windsor	Henry
Seamans, Herbert Lyle	Springfield	Greene
Sherwin, Melvin Ernest	Stockton	Cedar
Smith, Clifford Bradley	Kansas City	Jackson
Snow, John Howard	St. Louis City	
Taylor, Charles Henry	Harrisonville	Cass
Junior Class.		
Brown, Hamlin	Lake Spring	Dent
Cranmer, George William	Chillicothe	Livingston
Dearing, Charles Thornton	Columbia	Boone
Eickhoff, Gregory Harte	San Francisco, *Cal.*	
Eickhoff, Victor	San Francisco, *Cal.*	
Field, Maurice Seeber	Higginsville	Lafayette
Fowler, William Lucius	Kenton, *Tenn.*	
Gordon, Harold John	Columbia	Boone
Griffin, Harvey Payne	Marshalltown, *Iowa*	
Henley, Hezekiah Albert	Joplin	Jasper
Hogan, Albert	Maryville	Nodaway
Jones, Arthur Anwyl	Kansas City	Jackson
Kelly, Garnett Duncan	Hallsville	Boone

SCHOOL OF AGRICULTURE—Continued.

Name.	Postoffice.	County.
Kinkead, Robert Benton	Kirkwood	St. Louis
Latshaw, Joseph Bruce	Caruthersville	Pemiscot
McCanse, Cecil C	Columbia	Boone
McNatt, Homer Elkanah	Aurora	Lawrence
Nelson, Harry Rowland	Springfield	Greene
O'Neal, Emmett Cleveland	Paris	Monroe
Richey, Frederick David	St. Louis City	
Rodekohr, Edward John Henry	Corder	Lafayette
Rusk, Earl Wilson	Windsor	Henry
Schwarze, Carl Alois	Brooklyn, *N. Y.*	
Shepard, Harold Edgar	National City, *Cal.*	
Shepard, Norton Hamilton	Columbia	Boone
Snellings, Claud King	Columbia	Boone
Stephenson, Samuel Charles	Elmira	Ray
Wright, Turner Richardson Haden	Columbia	Boone
Wright, James Kelly	Columbia	Boone
Sophomore Class.		
Allder, Byron B	Canehill	Cedar
Allen, Leonard Alonzo	Dadeville	Dade
Allen, Frank Wisdom, Jr	Columbia	Boone
Beamer, Joe Stewart	Lamar	Barton
Brandt, Philip Martin	Plymouth, *Ohio*	
Carpenter, Roy William	Maysville	DeKalb
Cole, Pleasant Theodore	Quaker	Washington
DeVinna, Lawrence Estill	Versailles	Morgan
Ellington, Elmer Verne	Holliday	Monroe
Estes, Joseph Montieth	Columbia	Boone
Farley, Lawrence Barrett	Peoria, *Ill.*	
Florea, Roy	Blockton, *Iowa*	
Frazier, Aubrey	Columbia	Boone
Hackedorn, Howard	Galion, *Ohio*	
Hagland, Walter Julius	Kansas City	Jackson
Johnson, Oliver Ray	Maitland	Holt
Kahn, Harold Benjamin	Bigelow	Holt
Kunkel, Louis Otto	Mexico	Audrain
McGill, Barnett B	Lebanon	Laclede
Price, Christian Samuel	Joplin	Jasper
Ryland, John Edward	Kansas City	Jackson
Schrenk, Otto	Brunswick	Chariton
Scott, Elmer Cy	Canton	Lewis
Smoot, Banner Porter	Centralia	Boone
Streeter, Fred Clare	Hamilton	Caldwell
Szymoniak, Boleslaus	Buffalo, *N. Y.*	

SCHOOL OF AGRICULTURE—Continued.

Name.	Postoffice.	County.
Templeton, Geo. Streator	Rich Hill	Bates
Thieman, Melvin Nimrod	Aullville	Lafayette
Vanatta, Earl Steere	Vandalia	Audrain
Weaver, Luther Abraham	Windsor	Henry
White, George Cleveland	Harrisonville	Cass
White, Walter Evert	Drexel	Cass
Freshman Class.		
Adams, Robert Andrews	Ferguson	St. Louis
Anderson, Pruette F	Columbia	Boone
Basye, William	Kansas City	Jackson
Bordato, Arthur	Entre-Rios, *Arg. Repub*	
Botkin, Leonard Guy	Oregon	Holt
Bowling, Wm. Campbell	Columbia	Boone
Branham, Warren Switzler	Columbia	Boone
Briggs, Russell Goss	Joplin	Jasper
Brown, Arthur Campell	St. Louis City	
Clare, John Sallee	Montgomery City	Montgomery
Cleaver, Herbert Leslie	Fairport	DeKalb
Crews, Arthur Walker	Columbia	Boone
Davis, Herbert Perry	Lamar	Barton
Donnell, Alonzo McWilliams	Memphis, *Tenn.*	
Douglass, Thomas Rankin	Shelbina	Shelby
Fernandes, Jose Fidel	Monterey, *Mexico*	
Fountain, Stockton	Centralia	Boone
Glenn, Robt. Brown	Columbia	Boone
Gribble, Gail H	Columbia	Boone
Heaton, E. C	Indianola, *Iowa*	
Hechler, William Roy	Dalton	Chariton
Hewett, Herbert Osborn	Milwaukee, *Wisc.*	
Hiskett, Fred	Laredo	Grundy
Iribarne, Francisco Mariano	Buenos Ayres, *Arg. Repub*	
Kaelke, Norman Wesley	Lockwood	Dade
Keitley, Everard Spencer	Bowling Green	Pike
Kleinschmidt, Virgil Joseph	Higginsville	Lafayette
Miller, John Gilmer, Jr	Montgomery City	Montgomery
Morris, James	New London	Ralls
McCroskey, Franklin M	Guin	Christian
McNatt, Thomas Bryon	Aurora	Lawrence
Neill, Louis Tyson Williamson	California	Moniteau
Neill, Leonard	California	Moniteau
Nuckels, Samuel Benton	Savannah	Andrew
Ogle, Bert Foster	Hematite	Jefferson
Page, Arthur Clinton	Kansas City	Jackson

SCHOOL OF AGRICULTURE—Continued.

Name.	Postoffice.	County.
Patton, Kenneth Clifford	Paynesville	Pike
Pope, Harry Carl	Willow Springs	Howell
Rhodes, George Edwin	Eldorado Springs	Cedar
Ritchie, Ruby Elizabeth	Caney, *Okla.*	
Roberts, Alden Wesley	Auxvasse	Callaway
Schreiber, Leroy Herman	St. Joseph	Buchanan
Smith, Edward Penn	Hancock, *Wisc.*	
Sneed, George Wallace	Columbia	Boone
Steele, Earl Tracy	Chillicothe	Livingston
Stocks, Roy Baldwin	Columbia	Boone
Tooley, Harry Myrle	Monroe City	Monroe
Tyler, Benj. Bartlet	Defiance	St. Charles
Vanatta, Elmer Ellsworth	Vandalia	Audrain
Varrelmann, Ferdinand Arman	St. Louis City	
Watkins, Arthur Kratz	Watkins	Miller
Wheeler, Theordore F.	Sallisaw, *Okla.*	
Williams, Hobart Floyd	Little Rock, *Ark.*	
Wobus, Walter William	Washington	Franklin
Woodward, Edwin Graves	Columbia	Boone
Woodward Winona	Columbia	Boone
Worth, Homer M.	Worth	Worth
Wright, Frank Lester	Laplata	Macon
Special Students.		
Allison, Jno. Hampton, Jr.	Butler	Bates
Austin, Frank Lee	Potsdam, *N. Y.*	
Ballinger, John Monroe	Columbia	Boone
Bowles, Joe Hearst	Kirkwood	St. Louis
Donnell, Hassell	Memphis, *Tenn.*	
Honey, Joel F.	Festus	Jefferson
Ikenberry, Ezra Arthur	Leeton	Johnson
LaRue, Edgar N.	Marshall	Saline
Lusk, Sidney Arthur	Bunceton	Cooper
Mann, Thomas Freeland	California	Moniteau
Miller, Mrs. Helen Guthrie	Columbia	Boone
Moss, Melvin	Corpus Christi, *Texas*	
McWilliams, Chester Martin	Novelty	Knox
Rocklage, Alma Catherine	Henry	Ray
Simmons, Allen Raymond	Stanberry	Gentry
Simpson, Silas Truman	Blockton, *Iowa*	
Watson, Malcolm Clyde	Sturgeon	Boone
White, Carl Leslie	Aurora	Lawrence
Williams, Walter Scott	Belton	Cass
Woodard, John	Fruitdale, *Ala.*	
Wyman, Roy	Grant City	Worth

Home Economics.

Name.	Postoffice.	County.
Bell, Elizabeth Lucile	Monroe	Monroe
Berry, Ellen Louise	Columbia	Boone
Brown, Georgia Anna	Ethlyn	Lincoln
Brown, Mary Efale	Kansas City	Jackson
Chandler, Mrs. W. H.	Columbia	Boone
Cook, Mabel Ruth	Plattsburg	Clinton
Coon, Bonnie Lee	Trenton	Grundy
Coontz, Lucy Agnes	Vandalia	Audrain
Davis, Mamie Bowen	Mexico	Audrain
Drake, Mrs. Grace Wallace	Columbia	Boone
Edwards, Rachel	Centralia	Boone
Eyman, Jessie	Kansas City	Jackson
Farrar, Florine Marie	Lebanon	Laclede
Fessenden, Mrs. E. A.	Columbia	Boone
Gordon, Julia Murle	Columbia	Boone
Hanna, Mary Alice	Trenton	Grundy
Hartley, Edith Elizabeth	Eureka, *Ind.*	
Haworth, Charlotte Mary	Moberly	Randolph
Hayhurst, Miriam	Dunkirk, *N. Y.*	
Holt, Althea Erna	Columbia	Boone
Ingels, Calibel	Columbia	Boone
Knipschild, Mabel Louise	Norborne	Carroll
Leighton, Edith May	St. Louis City	
Lyon, Duane Evans	Columbia	Boone
Mann, Helen	Gallatin	Daviess
Meyer, Myrtle Louise	Kahoka	Clark
Miller, Mrs. Walter McNab	Columbia	Boone
Miller, Jessie Dewey	Jefferson City	Cole
Miller, Emma Briggs	Boonville	Cooper
Monroe, Nellie	Kansas City	Jackson
Moore, G. Mildred	St. Louis City	
Moss, Juliette	Columbia	Boone
Murrill, Daisy May	Cabool	Texas
McCanse, Katherine Maver	Columbia	Boone
Nesbitt, Nell	St. Joseph	Buchanan
Nesbitt, Ethel Amanda	St. Joseph	Buchanan
Nowell, Elizabeth	Columbia	Boone
Paine, Alice Milroy	Louisiana	Pike
Parker, Edith	Columbia	Boone
Prehn, Katherine Eleanor	Webster Groves	St. Louis
Ritchie, Ruby Elizabeth	Caney, *Okla.*	
Rocklage, Alma Catherine	Henry	Ray
Rowland, Eva A.	Bevier	Macon

HOME ECONOMICS—Continued.

Name.	Postoffice.	County.
Sanborn, Edith Ellen	Macon	Macon
Schmidt, Amalia Virginia	Ferguson	St. Louis
Shelton, Bess Houston	Kansas City	Jackson
Snow, Charlotte Anne	Sedalia	Pettis
Stuart, L. Maude	Columbia	Boone
Sunderland, Ethel G	Cleveland, *O.*	
Swainson, Anna Elizabeth	Nevada	Vernon
Taylor, Susan Shelby	Columbia	Boone
Tidd, Charley Coombs	Columbia	Boone
Walker, Nellie Odille	Macon	Macon
White, Mrs. Walter E	Columbia	Boone
Woodward, Winona	Columbia	Boone

Short Course in Agriculture, etc.

(*A. H.* —Animal Husbandry; P. P.—Plant Production; D.—Dairying.)

Bailey, Chester Irwin	A. H.	Greenwood	Jackson
Baker, Clarence Owen	A. H.	Hamilton	Caldwell
Betson, Garnett Johnson	A. H.	Linneus	Linn
Blackwell, Charles Coleman	A. H.	Melzo	Jefferson
Booth, Irvin Roy	A. H.	Milan	Sullivan
Boyer, John	P. P.	Drexel	Cass
Boyer, Ezra Ross	A. H.	Cantril, *Iowa*	
Braun, Chas. William	P. P.	Jackson	Cape Girardeau
Bright, Shirley	A. H.	Columbia	Boone
Buffington, Jas. William	A. H.	St. Louis City	
Busch, Robert Albert	D.	Washington	Franklin
Butcher, Ralph Elliott	P. P.	Blairstown	Henry
Butcher, Harvey Raymond	A. H.	Blairstown	Henry
Campbell, Earl Albert	A. H.	Albany	Gentry
Canada, Iva C	A. H.	Nelson	Saline
Canada, Benj. Ritchie	A. H.	Sturgeon	Boone
Carlson, Willis Frankland	A. H.	Tarkio	Atchison
Carothers, John Russell	A. H.	Stronghurst, *Ill.*	
Carpenter, Otto L	A. H.	Molino	Audrain
Carter, Haden Wilson	A. H.	Columbia	Boone
Castilo, Mitchell	A. H.	Howell	St. Charles
Crum, William Hardin	A. H.	Olean	Miller
Dakan, Everett LaRoy	A. H.	Stanberry	Gentry
Dale, Roy	A. H.	Smithville	Clay
Dawson, James Doyne	P. P.	New Madrid	New Madrid

SHORT COURSE IN AGRICULTURE—Continued.

Name.		Postoffice.	County.
Dooley, Everett Henry	A. H.	Stoutsville	Monroe
Edwards, Willie Ely	A. H.	Centralia	Audrain
Ellis, Carey Clark	A. H.	Montgomery City	Montgomery
Elson, Sherman	A. H.	Ash Grove	Greene
Ernstmeyer, August Wm	A. H.	Chamois	Osage
Frankenbach, William	P. P.	Hannibal	Marion
Fick, Creigh	A. H.	Higginsville	Lafayette
Gash, Benj. Lee	A. H.	Palmyra	Marion
Geisert, Frederick Jacob	A. H.	Carthage	Jasper
Graham, Vernon	A. H.	Montgomery City	Montgomery
Greenlee, Wm. Lee	A. H.	Novelty	Knox
Guillaume, Nicholas	P. P.	Chicago, *Ill.*	
Hawkins, Henry Kimble	A. H.	Ash Grove	Greene
Haynes, John	A. H.	Atlanta	Macon
Hayslett, Elmer R.	A. H.	Graham	Nodaway
Hill, Fred Johnson	A. H.	Butler	Bates
Hockaday, Roy Francis	A. H.	Belton	Cass
Hoffmeister, John Fred	P. P.	Golden City	Barton
Holub, Harry Lee	A. H.	St. Joseph	Buchanan
Howard, James Houston	P. P.	New Madrid	New Madrid
Hubbard, Roy E.	A. H.	Lathrop	Clinton
Hughes, Forrest W.	A. H.	Foristell	St. Charles
Hutchison, Wilbur Fletcher	A. H.	Salisbury	Chariton
Hyde, J. Sanford	A. H.	McFall	Gentry
Iribarne, Francisco Mariano	D.	Buenos Ayres, *Arg. Repub*	
Jewett, Frank C.	A. H.	Butler	Bates
Jewett, Eugene	A. H.	Butler	Bates
Jones, Floyd David	P. P.	Marshall	Saline
Keehart, Carl	P. P.	Marshall	Saline
Kittle, Ernest Judson	A. H.	Arbela	Scotland
Klingenberg, Herman H.	A. H.	Concordia	Lafayette
Lieber, Charles Albert	A. H. / P. P.	Boonville	Cooper
Lopez, Rodolfo Bibiano	D	Corondo, *Arg. Repub*	
Lyons, Thomas	P. P.	St. Louis City	
Martin, Frank Plummer	A. H.	Tarkio	Atchison
Mellike, Wm. Carl	A. H.	Baring	Knox
Mitchell, Guy	A. H.	Caledonia	Washington
Moore, S. W.	P. P.	Elwell, *W. Va*	
Morrison, Jesse Dallas	A. H.	Albany	Gentry
Motter, Geo. Washington	A. H.	Kirksville	Adair
McAninch, James	A. H.	Hughesville	Pettis
McClure, Charlie Lester	A. H.	Hughesville	Pettis
McFarland, Wilber Jacob	A. H.	Boonville	Cooper
Norton, Omer Douglas	A. H.	Center	Ralls

SHORT COURSE IN AGRICULTURE—Continued.

Name.		Postoffice.	County.
Ogle, Bert Foster	D.	Hematite	Jefferson
Owen, Thos. Meloan	P. P.	Ruble	Reynolds
Perry, Willie Waldo	P. P.	Spruce	Butler
Philbrick, Geo. Craig	P. P.	Rich Hill	Bates
Prewitt, Moss	A. H.	Clarksville	Pike
Quinn, Leo. P	A. H.	Eureka	St. Louis
Randel, Norman Shelby	A. H.	Creighton	Cass
Ruggs, Oscar D	A. H.	Weatherby	DeKalb
Roberts, Wm. Moses	A. H.	Maysville	DeKalb
Rooklage, Chas. W	A. H.	Henry	Ray
Schlotzhauer, Harry D.	P. P. A. H. D.	Pleasant Green	Cooper
Shulze, Henry D	A. H.	Center	Ralls
Smith, James A	A. H.	Lawson	Ray
Snider, Wm. Alexander	A. H.	Gentry	Gentry
Snip, William	A. H.	Lamar	Barton
Snip, John	A. H.	Lamar	Barton
Stewart, William R	A. H.	Hamilton	Caldwell
Stout, Harry Chester	A. H.	Athelstan, *Iowa*	
Sturhan, August Wm	A. H.	LaGrange	*Lewis*
Suhre, Walter James	A. H.	High Hill	Montgomery
Sutterer, Anthony, Jr	P. P.	Salisburry	Chariton
Thies, Fred. William	P. P.	Ferguson	St. *Louis*
Thompson, Monroe	A. H.	Hedge City	Knox
Thompson, Clinton E	A. H.	Ladonia	Audrain
Thompson, Wm. Raymond	A. H.	Laddonia	*Audrain*
Thornton, Samuel Clark	P. P.	Blackwater	Cooper
Thurlo, David	A. H.	Bosworth	Carroll
Titus, Shelly Faulkner	P. P.	Chicago, *Ill.*	
Tremayne, Geo. Ellis	P. P.	St. Louis City	
Van Norstrand, Clarence B.	A. H.	St. Louis City	
VanPelt, Elmer	A. H.	Atlanta	Macon
Vogel, Arthur	A. H.	Jacob, *Ill.*	
Wahlers, Arthur P	A. H.	Versailles	Morgan
Walker, Rolla LeRoy	A. H.	Joplin	Jasper
Wasel, Adolf	A. H.	Auxvasse	Callaway
Wendling, John	A. H.	Medill	Clark
Westover, Maurice Filmore	A. H.	Farmington	St. Francois
Williams, Jno. D	A. H.	Pattonsburg	Daviess
Winter, Gustave Ernest	A. H.	Hawk Point	Lincoln
Young, Edward Lee	A. H.	Hickman Mills	Jackson

Department of Law.

Name.	Postoffice.	County.
Senior Class.		
Baird, Arch Milton	Marionville	Lawrence
Bell, Robert Cook	Weatherby	DeKalb
Blue, Christopher Columbus	Florida	Monroe
Bostian, William Bernard	Independence	Jackson
Boyd, William	Lawton, *Okla.*	
Butler, Charles Thompson	Brookhaven, *Miss.*	
Cannon, Clarence Andrew	Columbia	Boone
Clausen, Erwin Werner	Carrollton	Carroll
Clift, Jay Gould	Hastings, *Okla.*	
Collins, Mortimer B	Brookfield	Linn
Davis, Barton Denny	Woodruff	Platte
Dobyns, Daniel Thomas	Shelbina	Shelby
Duvall, Melvin Joseph	St. Joseph	Buchanan
Easley, Charles Ralph	Santa Fe, *N. Mex*	
Fristoe, Chas. Wisdom	Windsor	Henry
Gipson, Ennis Hubert	Lagonda	Charlton
Gloriod, John Arthur	Richwoods	Washington
Goodson, John Virgil	New Cambria	Macon
Harris, George Gordon	Smithton	Pettis
Holden, Lewis Marvel	Colorado Springs, *Colo*	
Holloway, Russell Edward	Columbia	Boone
Holmes, Jay Vanderbilt	La Belle	Lewis
Hosford, Grover Cleveland	Cleveland, *Ohio*	
Howell, Dee David J	Pueblo, *Col.*	
Ikenberry, Josephus Henry	Leeton	Johnson
Jacobs, Floyd Emory	Kansas City	Jackson
Kavanaugh, Roscoe Essex	New Hampton	Harrison
Killam, David Edwin	Winfield	Lincoln
Kilmer, Harry Edmund	Yorkshire, *Iowa*	
Kurtz, John Albert	Lockwood	Dade
Lang, Frederick Phillip	Kahoka	Clark
Maupin, John Archibald	Perry, *Okla.*	
Maupin, Robert Washington	Perry, *Okla.*	
Miller, Joe Wright	Appleton City	St. Clair
Milligan, Maurice Morton	Richmond	Ray
Mossman, Hugh	Vinton, *Iowa*	
McMillen, Edwin Carroll	Columbia	Boone
McMillen, Albert Thomas	Columbia	Boone
McVay, Grattan Gregory	Tecumseh, *Okla.*	
Nulf, Jacob Hamilton	Jacksonville	Randolph
Patton, Lowell Russell	Clarksville	Pike

DEPARTMENT OF LAW—Continued.

Name.	Postoffice.	County.
Payne, Dennis Cullen	Milan	Sullivan
Pierce, Ralph Harold	Clinton	Henry
Price, John Emmet	Harrisonville	Cass
Ream, Lawrence Larkin	Greenridge	Pettis
Rittenhouse, Frank Austin	Chandler, *Okla.*	
Rogers, Warren	St. Joseph	Buchanan
Shepherd, Harry Edward	Seneca	Newton
Spragg, Earle Gordon	Ridgeway	Harrison
Stewart, Harvey Kling	Louisiana	Pike
Stone, Wilbert Benjamin	Macon	Macon
Sturtevant, Mabel Eugenia	Columbia	Boone
Switzer, Fred Roscoe	Houston, *Texas*	
Tracy, Frederick H.	New Lexington, *Ohio*	
Williams, Harold Spencer	Warrensburg	Johnson
Second Year Class.		
Axline, Aaron Guy	Nevada	Vernon
Bailey, Walter Elijah	Carthage	Jasper
Bedford, Richard Franklin	Columbia	Boone
Boyd, Loren Bernal	Larned, *Kans.*	
Brownsfield, George Dewey	Pilot Grove	Cooper
Calvin, George Browne	Kansas City	Jackson
Capelle, Charles David	Independence	Jackson
Cleaveland, Alton Bruce	Breckenridge	Caldwell
Cole, Redmond Selecman	Columbia	Boone
Cowherd, Benjamin Earl	Santa Fe	Monroe
Curtis, Arthur M.	Norwood	Wright
Denney, Otto Benjamin	Mountain Grove	Washington
Dinwiddie, Walter Morris	Columbia	Boone
Donaldson, Thomas Felix	Kennett	Dunklin
Field, Andrew F.	Callao	Macon
Fillmore, Harrison Morton	Joplin	Jasper
Freet, Samuel Raymond	Columbia	Boone
Frisby, Frank Maurice	Bethany	Harrison
Fry, William Wallace, Jr.	Mexico	Audrain
Gibson, Wilber James	Grant City	Worth
Green, Leslie Carlisle	St. Louis City	
Gunby, Lloyd Edsall	Chillicothe	Livingston
Harrison, Wm. Percival	Duluth, *Minn.*	
Harvey, Hubert Marcellus	Marshall	Saline
Hoffman, Dimmitt Heard	Sedalia	Pettis
Hogan, Jesse Franklin	Maryville	Nodaway
Holmes, Walton H., Jr.	Kansas City	Jackson
Hornbuckle, Wm. Rufus	Kansas City	Jackson

DEPARTMENT OF LAW—Continued.

Name.	Postoffice.	County.
Howell, Franklin Clinton	Ulman	Miller
Huffman, Edwin Earl	Columbia	Boone
Hunker, Chester	Roanoke	Howard
Hunt, Harry Gilliam	Walnut Ridge, *Ark.*	
Hunt, Hal Bas	Rockport	Atchison
Johnson, Thomas Robert	Earl	Callaway
Jones, Ernest William	El Paso, [illegible]	
Lincoln, Harold Thomas	Springfield	Greene
MaGee, James Dwight	Louisiana	Pike
Mansur, Henry Allen	Chillicothe	Livingston
Meador, Eli Newton	Cassville	Barry
Moon, Fred Arnold	Springfield	Greene
Moore, Thomas Richard	Galena	Stone
Myers, Wm. Thomas	Shelbina	Shelby
McClure, John Wesley, Jr	Hughesville	Pettis
Nisbet, Roscoe Conklin	Roswell, *N. M.*	
Oliver, Allen Laws	Cape Girardeau	Cape Girardeau
Paul, Abraham	Southwest City	McDonald
Porter, Edward Winslow	Lathrop	Clinton
Price, Lakenan Moss	Columbia	Boone
Pyles, Marshall Ashby	Pence Springs, *W. Va.*	
Robertson, Albert Gallatin, Jr	Malta Bend	Saline
Sadler, Daniel Kennard	Boonville, *Ark.*	
Saunders, James Key	Pierce City	Lawrence
Shields, Dell Almond	Sedalia	Pettis
Simpson, George H	Wahoo, *Neb.*	
Sloop, Charles Jacob	Queen City	Schuyler
Smith, Virgil	Carrollton	Carroll
Starrett, George Simpson	St. Joseph	Buchanan
Tompson, Warren Vaughn	Alamagordo, *N. M.*	
Waddell, Leonard	Kansas City	Jackson
Williams, Edward E	Maryville	Nodaway
Woodruff, William Francis	Warrensburg	Johnson
Wright, William Walton	Appleton City	St. Clair
Wright, William Adam	Craig	Holt
Yates, Virgil	Gallatin	Daviess
First Year Class.		
Ambrister, Clarence Alexander	Columbia	Boone
Arnold, Paul John	Kansas City	Jackson
Bissett, William Edward	Mound City	Holt
Bleish, Abe Stephen	McFall	Gentry
Boles, Warren McG	Versailles	Morgan

DEPARTMENT OF LAW—Continued.

Name.	Postoffice.	County.
Brown, Buford Otis	Denton, *Texas*	
Burch, Otis Mason	Hopkins	Nodaw
Burge, Everette Lyman	Kansas City	Jackso
Bush, William D., Jr.	Marshall	Sal
Chamberlin, Jno. Monroe	Polk	Pe
Clifford, Chas. Alfred	Macon	Mac
Coffey, George Cleveland	Wayne City, *Ill.*	
Cook, Thos. Talmage	Jefferson City	Cal
Cox, Norman Alphus	Joplin	Jasp
Craig, James Larkin	Columbia	Boon
Crooks, Harry Ervay	Springfield	Gree
Daily, Herley Smith	Brunswick	Chariton
Douglass, Shannon Clay, Jr.	Kansas City	Jackson
Ebright, Alpha Mills	Sterling, *Kans.*	
Elliott, Henry, Jr.	Whiteside	Lincoln
Evans, Charles W.	Maner	Wright
Flagg, Howard	Louisiana	Pik
Ford, Otto Easman	Manson, *Iowa*	
Frieze, Vernon	Seybert	Dad
Glenn, Allen Bristol	Harrisonville	Cas
Harper, William Homer	Bertrand	Mississippi
Heaton, E. C.	Indianola, *Iowa*	
Hewitt, Arthur Mihan	Milwaukee, *Wisc.*	
Hine, Raphael Gregory	Savannah	Andrew
Hirsh, Karl	Chillicothe	Livingston
Hulett, Wm. Hatton	Columbia	Boone
Innis, Clarence Ransome	St. Joseph	Buchanan
Jarman, Edgar Ambrose	Unionville	Putnam
Jones, Robert William	Columbia	Boone
Kalina, Jacob	New York City, *N. Y.*	
Kinder, Francis Millington	Buchanan	Bollinger
Kirtley, Wm. Beauford	Columbia	Boone
Kiskidden, Andrew Henry	Clayton	St. Louis
Klein, Edward	St. Louis City	
Knighton, Milton Phil	Hannibal	Marion
Macbeth, James Filmore	St. Louis City	
Manning, Everett	Pineville	McDonald
Miller, Oliver John	St. Louis City	
Miller, Victor Joseph	Joplin	Jasper
Miller, Edwin Lee	Norborne	Carroll
Moles, Aubria Harold	Clarksburg	Moniteau
McAntire, John William	Joplin	Jasper
McCaul, Michael	Eagleville	Harrison
Netherland, William Wood	Center	Ralls
Newcomer, Ralph Samuel	St. Joseph	Buchanan

DEPARTMENT OF LAW—Continued.

Name.	Postoffice.	County.
ixon, James Patheric	Lebanon	Laclede
tis, Merrill Edward	Hopkins	Nodaway
ape, Charles Melville	Columbia	Boone
eam, Ross J	Kansas City	Jackson
eese, Albert Gilmore	New Cambria	Macon
tollins, James Sidney	Columbia	Boone
chulte, William Fred	Washington	Franklin
chwabe, George Blaine	Columbia	Boone
ebastian, Henry G	Columbia	Boone
Shackleford, Hall	Jefferson City	Cole
Smith, Richard Alfred	Columbia	Boone
Stigall, Louis Virgil	Stewartsville	DeKalb
Stillwell, Voorhis Cornelius	Hannibal	Marion
Stone, Harry Benjamin	Macon	Macon
Stuckey, George Ernest, Jr	St. Louis City	
Summers, James Stephen	Sharon, *Pa.*	
Swiggett, Samuel Edward	Carrollton	Carroll
Talbot, Charles Hardin	Denver, *Col.*	
Terrill, Thurman Tindall	Huntsville	Randolph
Vrooman, Clyde Leslie	Kansas City	Jackson
Walker, Glen Collins	Armstrong	Howard
Warren, Doctor Franklin, Jr	Trenton	Grundy
Weaver, Harry Grey	New London	Ralls
Williams, Joseph C	Springfield	Greene
Wilson, Dockery	Bethany	Harrison
Wortman, Charles W	Cecil, *Ohio*	
Young, Pete Heming	Savannah	Andrew
Special Students.		
Albert, Emil Richard	Pierce City	Lawrence
Blair, William Bowen	Guthrie, *Okla.*	
Bonfoey, Donald Russell	Unionville	Putnam
Brand, Frederick William	St. Louis City	
Brandenburg, Ernest Clay	Missouri City	Clay
Brauer, Henry Frederick	St. Louis City	
Callery, Philip Henry	Carthage	Jasper
Comer, Charles P	St. Louis City	
Crockett, Edgar Irvin	Columbia	Boone
Crone, Frederic Henshaw	Tipton	Moniteau
Davenport, Carlton P	Colrain, *Mass.*	
Davis, Murray	Kansas City	Jackson
Estill, Jas. Robert	Sedalia	Pettis
Gordon, Mark Hendricks	Fair Play	Polk
Grable, Quincy Enoch	Agency	Buchanan

DEPARTMENT OF LAW—Continued.

Name.	Postoffice.	Co
Jett, Isaac Newton	Donnellson, *Ill.*	
Layton, Sutton Reid	Winona	Sh
Lieuallen, Fred Poe	Princeton	Ma
Linville, Horace Gael	Dawn	Li
Lusk, Ben Lafayette	Bunceton	Co
Matthews, Richard Lee	Macon	Ma
Mayfield, Waldo Clarence	Lebanon	Le
Miller, John F	Cardwell	Du
Monroe, Neal Edwin, Jr	Quincy, *Ill.*	
McIndoe, James	Joplin	Jo
Pearson, Arthur E	Lexington, *Tenn.*	
Pack, Herbert Crim	St. Joseph	Buch
Plummer, Jno. Edmond	Breckenridge	Cald
Pritchett, Roy Delaway	Xenia, *Ill.*	
Risk, Frederick Earl	Hillsboro, *Ill.*	
Roberts, James William	Savannah	And
Sapp, Hollis Wood	Ashland	Bo
Saunders, William Howard	St. Joseph	Buch
Shaw, Roy Leslie	Blackwell, *Okla.*	
Shelton, Charles William	Macon	Ma
Sheridan, Thomas Joseph	Joplin	Jas
Stafford, Morgan Allen	Walla Walla, *Wash.*	
Stone, Robert C	Kansas City	Jack
Vernon, Don Oscar	Lebanon	Lac
Williams, Oliver Dugan	Clay City, *Ill.*	
Wright, Emory Henry	Columbia	Bo

Department of Medicine.

Fourth Year Class.

Brewer, Lake	Ridgeway	Harri
Clint, Morgan Leland	Meadville	Li
Daley, Lyle Miner	Hamilton	Caldw
Frazier, William Lawrence	Columbia	Bo
Houf, Harry Walter	Fulton	Callow
Kuns, Frank Oliver	Aspen, *Colo.*	
Marsh, Harry Stephenson	Tipton	Monit
Mitchell, Oliver Wendell Holmes	Lancaster	Schuy
Summers, Joseph S	Coffeyburg	Da

DEPARTMENT OF MEDICINE—Continued.

ame.	Postoffice.	County.
Third Year Class.		
ierson, Axel Isadore	Kansas City	Jackson
ıgher, Albert Howard	Bucklin	Linn
rfler, Morris Edwin	Novinger	Adair
l, Robert Burns	Eldorago Springs	Cedar
ırch, Samuel Franklin	Carrollton	Carroll
nion, John Ralph	Caruthersville	Pemiscot
neral, Fred Ernest	Cottage Grove, *Oregon*	
ıttle, Floyd Wilkins	Columbia	Boone
Second Year Class.		
lford, Leland Barton	Vandalia	Audrain
ullard, H. Hays	Kirkwood	St. Louis
lastman, Frederick Ward	Kansas City	Jackson
Hawkins, James Clinton	Brumley	Miller
Johnson, Franklin Paradise	Brookfield	Linn
Lhamon, Ruskin	Columbia	Boone
Pickrell, Claude Dildine	St. Louis City	
Sellers, Claude Lucullus	Osawatomie, *Kans.*	
Smith, William Alexander	Fayette	Howard
Stine, Dan Gish	Tipton, *Ind.*	
Watkins, John Armstrong	Torreon, *Mexico*	
First Year Class.		
Armington, Arthur Kendall	Joplin	Jasper
Avery, Samuel D	Troy	Lincoln
Blakely, Rupert Mitchum	Coal Hill, *Ark.*	
Boone, Wilmet de Saussure	Shanghai, *China*	
Brakebill, Martin Luther	Belton, *Texas*	
Briggs, Pearle Sarah	Columbia	Boone
Campbell, William Richard	Clinton	Henry
Dyer, Clyde Percy	Joplin	Jasper
Ewing, Ephraim Macdonald	St. Louis City	
Fickel, William Hanna, Jr	Columbia	Boone
Forgrave, Leon Paul	St. Joseph	Buchanan
Fortner, Edgar S	Plano, *Texas*	
Graves, Dorsett Vandeventer	Montgomery City	Montgomery
Haines, Frances Edith	Columbia	Boone
Hecker, Charles Henry	St. Louis City	
*Kieffer, Theodore Easley	St. Louis City	

*Died in St. Louis, October, 1907.

DEPARTMENT OF MEDICINE—Continued.

Name.	Postoffice.	Coun.
Koechig, Irene	St. Louis City.....	
Lowrey, Lawson Gentry.....	Excelsior Springs	Cl
Macdonald, Joan M.....	New York City, *N. Y.*.....	
Martin, Floyd August.....	Eldorado Springs	Ced
Maslanick, Anna	St. Louis City.....	
Miller, Edwin Lee.....	Norborne	Carr
Muns, Walden Evermont.....	Montgomery City	Montgom
Payne, George Calvin.....	Muskogee, *Okla.*	
Potter, Caryl Ashby.....	St. Joseph	Buchan
Sands, Luther Dean.....	Cole Camp	Bent
Sevin, Omar Richard.....	Higginsville	Lafaye
Weese, William Joshua.....	Sheridan	Wor
Williams, Frank Lee.....	Brown's Station	Boone
Wilson, John	Bloomfield	Stoddar
Yates, John	Fulton	Callaway
Special Students.		
Austin, Mora Maye.....	Columbia	Boone
Heldt, Thomas Johannes.....	Everly, *Iowa*	
Jardine, Margaret Isabelle.....	Unionville	Putnam
Marsh, Martha Adella.....	Tipton	Montgom
Plummer, James Robert.....	Fayetteville, *Ark.*	
Vogel, Emma Grant.....	Linn	Osage

Department of Engineering.

Senior Class.		
Adams, Frank Hicks.....C. E.	Lamar	Barton
Bainum, Will Harvey.....C. E.	Maryville	Nodaway
Baker, Sylvester Clay.....C. E.	Montgomery City	Montgomery
*Barnett, Samuel Camillus....C. E.	Marshall	Saline
Beam, Jacob Clubb.....E. E.	Kansas City	Jackson
Branham, Robert Todd.....M. E.	Columbia	Boone
Brown, Carl Wright.....C. E.	Vandalia	Audrain
Bryan, John Robert..... ....C. E.	Norborne	Carroll
Budke, Louis Henry... .....E. E.	St. Louis City.....	
Carr, James.....E. E.	Louisiana	Pike
Corl, Wiley Franklin.....E. E.	Joplin	Jasper
Dean, John Bowen.....C. E.	Marshall	Saline

*Died in Marshall, Mo., February 23, 1903.

DEPARTMENT OF ENGINEERING—Continued.

Name.			Postoffice.	County.
ffy, Ralph Early	E.	E.	Greenfield	Dade
ler, Truman	E.	E.	St. Louis City	
lis, John Russell	C.	E.	Columbia	Boone
tes, Clarence	Ch.	E.	Liberty	Clay
ssell, Walter	E.	E.	Kansas City	Jackson
awks, Marvin Edward	E.	E.	Salisbury	Chariton
raham, Alexander William	C.	E.	Mineola	Montgomery
arris, Lester Joslyn	E.	E.	Lebanon	Laclede
echler, Fred George	M.	E.	Dalton	Chariton
olden, William	C.	E.	Oklahoma City, *Okla.*	
ennedy, Jefferson Byron	E.	E.	Nevada	Vernon
esler, Daniel William	C.	E.	Jamesport	Daviess
etter, E. F.	C.	E.	Mexico	Audrain
ivingston, Harold Todd	C.	E.	Mountain Grove	Wright
ong, Merrill Ewart	E.	E.	Cameron	Clinton
usk, Ewing Lafetra	C.	E.	Roswell, *New Mexico*	
Lynch, Cecil Shannon	E.	E.	Robertsville	Franklin
Maddox, George Finley	E.	E.	New London	Ralls
Mallery, Merle Jasper	E.	E.	Festus	Jefferson
Martin, Henry Giles	E.	E.	St. Louis City	
Moreell, Samuel, Jr.	C.	E.	St. Louis City	
Morehead, William Clyde	E.	E.	Carrollton	Carroll
Morrison, Lacey Harvey	M.	E.	California	Moniteau
Morrow, Samuel Roy	C.	E.	Carthage	Jasper
Moss, Oliver Perry	E.	E.	Columbia	Boone
Mueller, Irvin Charles	C.	E.	California	Moniteau
Myers, Thomas Albert	M.	E.	Nevada	Vernon
McAdam, Clarence Eugene	E.	E.	Prairie Hill	Chariton
McMinn, Walter James	E.	E.	Columbia	Boone
McVey, Karl Absalom	E.	E.	Sedalia	Pettis
O'Bannon, Walter A.	C.	E.	Lamonte	Pettis
Piepmeier, Bion Harman	C.	E.	Appleton City	St. Clair
Riddle, Roderick Edwin	C.	E.	Independence	Jackson
Robinson, Eugene Webster	C.	E.	Breckenridge	Caldwell
Ross, Floyd Elmer	C.	E.	Willard	Greene
Rutherford, Harry Kugler	E.	E.	Slater	Saline
Smith, Perd O.	E.	E.	Cantril, *Iowa*	
Terrill, Anderson Wood	C.	E.	Columbia	Boone
Thornton, Frank, Jr.	E.	E.	St. Joseph	Buchanan
Uts, Amos Logan	E.	E.	McFall	Gentry
VanWagenen, James Hubert	C.	E.	Corning, *Iowa*	
Wells, Homer Theodore	C.	E.	Webb City	Jasper
Whitlow, Joseph Andrew	E.	E.	Eaton, *Col.*	
Wiberg, Herbert George	Ch.	E.	Brooklyn, *N. Y.*	
Williams, William Guy	C.	E.	Liberty	Clay

DEPARTMENT OF ENGINEERING—Continued.

Name.	Postoffice.	County.
Wise, John Smith.....C. E.	Bowling Green .	Pike
Yates, Clinton Talbott.....E. E.	Columbia .	Boone
Zatlin, Louis Edward.....M. E.	St. Louis City	
Sophomore Class.		
Akamatsu, Masatomy.....E. E.	Iyo, *Japan* .	
Alley, Frank Robertson.....E. E.	Princeton .	Mercer
Andrews, Hardage Lane.....E. E.	Boonville .	Cooper
Aycock, Robert Vaughn.....M. E.	Lebanon .	Laclede
Barrett, John Harvey.....E. E.	Roswell, *New Mexico*	
Baughman, William Leavell..C. E.	Platte City .	Platte
Bayley, Alphonso Vincil.....M. E.	Columbia .	Boone
Becker, Coulter Meldrom.....C. E.	St. Louis City	
Beekman, Royce Allen.....E. E.	Hermann .	Gasconade
Bewick, Stephenson Pope.....C. E.	Milo .	Vernon
Board, Vigil Lee.....E. E.	Windsor .	Henry
Boner, Charles John.....Ch. E.	Carrollton .	Carroll
Booth, Jesse James.....E. E.	Shelbina .	Shelby
Born, Charles Rudolph.....E. E.	Savannah .	Andrew
Bowes, Edward Loomis.....M. E.	St. Louis City	
Brandenburg, Ernest Clay....C. E.	Missouri City .	Clay
Branham, William Grover....C. E.	Joplin .	Jasper
Brasfield, Edwin D.....C. E.	Unionville .	Putnam
Brown, Guy .....C. E.	Kansas City .	Jackson
Bunce, Beverly .....E. E.	Sheldon .	Vernon
Burress, Frank .....M. E.	Joplin .	Jasper
Callaway, Scott David.....Ch. E.	Nevada .	Vernon
Carpenter, Roy William.....C. E.	Maysville .	DeKalb
Cheverton, Jas. Arthur.....E. E.	Rich Hill .	Bates
Christie, William Earl.....C. E.	Moberly .	Randolph
Collette, Elman Laurence.....C. E.	Springfield .	Greene
Colman, Amos Mathien.....E. E.	DeSoto .	Jefferson
Cooper, Frank, Jr.....E. E.	Pierce City .	Lawrence
Cunningham, Seaborn Jones..C. E.	Bevier .	Macon
Curran, Robert Wynne, Jr...E. E.	Breckenridge .	Caldwell
Curry, Charles Forrest.....C. E.	Kansas City .	Jackson
Dalton, Samuel Jasper.....C. E.	Boonville, *Miss.* .	
Dearing, Stephen Lee.....M. E.	Palmyra .	Marion
Diemer, Robert Bernard.....C. E.	Palmyra .	Marion
Dudley, Rufus Easton.....M. E.	Troy .	Lincoln
Dumas, Louis Walker, Jr....C. E.	Kahoka .	Clark
Dunkle, Robert Eugene.....E. E.	Carrollton .	Carroll
Evans, James Bowling.....C. E.	Columbia .	Boone
Flammang, Joseph Aloysius..C. E.	Rich Hill .	Bates

DEPARTMENT OF ENGINEERING—Continued.

Name.			Postoffice.	County.
Lewis, Henry Barnes	E.	E.	Carrollton	Carroll
Liebenstein, Oscar Henry	E.	E.	Clarksville	Pike
Lowrey, Lowell Leotus	C.	E.	Osnaburg, *Ohio*	
Mann, Chester DeWitt	C.	E.	Kansas City	Jackson
Martin, Frank Aubrey	C.	E.	Huntsville	Randolph
Meyer, Edgar Robert	E.	E.	Mound City	Holt
Mitchell, Addison	E.	E.	Murfreesboro, *Tenn.*	
Moore, Milton Spoerle	C.	E.	Oregon	Holt
Mosley, Allen Walter	C.	E.	Stanberry	Gentry
Mount, Harry Hopkins	E.	E.	Albany	Gentry
Nelson, Herbert Frank	E.	E.	Sweet Springs	Saline
Nichols, Oakley Mathias	E.	E.	Chillicothe	Livingston
Palmer, Leroy Sheldon	Ch.	E.	St. Louis City	
Palmer, Robert Conrad	Ch.	E.	St. Louis City	
Phillips, Clifford French	C.	E.	Hermann	Gasconade
Porselius, Albert Frederick	C.	E.	St. Joseph	Buchanan
Potts, Robert Andrew, Jr.	C.	E.	Kansas City	Jackson
Powell, Maurice Vernon, Jr.	C.	E.	Houston Heights, *Texas*	
Rees, Anson Harvey	E.	E.	St. Louis City	
Reppy, George Franklin	C.	E.	St. Louis City	
Rider, Victor Martin	C.	E.	Lees Summit	Jackson
Roth, Frederick Isadore	C.	E.	St. Joseph	Buchanan
Roth, Henry	E.	E.	Wardsville	Cole
Rust, Wollard	C.	E.	Hardin	Ray
Salisbury, Eugene Franklin	C.	E.	Webster Groves	St. Louis
Schaefer, Oscar Charles	E.	E.	Washington	Franklin
Schmauder, Walter George	E.	E.	Burlington Junction	Nodaway
Schmidt, Theodore John	C.	E.	Flucom	Jefferson
Scott, Angelo	C.	E.	Canton	Lewis
Simon, Bernard Daniel	C.	E.	St. Louis City	
Smyth, Edward Argo	E.	E.	Caruthersville	Pemiscot
Sparks, Raymond Elmore	C.	E.	Kansas City	Jackson
Spencer, Kenneth	C.	E.	St. Louis City	
Sperry, Guy Leslie	E.	E.	Lockwood	Dade
Stava, William	C.	E.	Springfield	Greene
Stump, Robert Leonard	C.	E.	Nevada	Vernon
Surface, Charles Randall	E.	E.	Gallatin	Daviess
Swarts, Guy Taylor	M.	E.	Davenport, *Okla.*	
Tupes, Ernest E	C.	E.	Raymore	Cass
Wells, Franc Harris	C.	E.	Rockport	Atchison
Welsh, Harold Llewellyn	C.	E.	Kansas City	Jackson
Westover, Roland Bruce	C.	E.	St. Joseph	Buchanan
Wilcox, Harry Eugene	C.	E.	Hannibal	Marion
Wilkes, Edmund, Jr.	C.	E.	Columbia	Boone
Winans, Lawrence Lewis	C.	E.	Mexico	Audrain

DEPARTMENT OF ENGINEERING—Continued.

Name.			Postoffice.	County.
Reagan, Cody Silvester	C.	E.	Macon	Macon
Redd, Edward Morgan	C.	E.	St. Louis City	
Ridgeway, George Allen	C.	E.	Columbia	Boone
Roberts, Warren	C.	E.	Mooresville	Livingston
Roberts, Prewitt	C.	E.	Lexington	Lafayette
Roehry, Emil	E.	E.	Ironton	Iron
Ross, Blair Arthur	C.	E.	Novelty	Knox
Rucker, Casper Bell	E.	E.	Brunswick	Chariton
Rust, Fleet Singleton	M.	E.	Hardin	Ray
Sachs, Alexander Fred	C.	E.	Kansas City	Jackson
Schmidt, Hermann Geo. F.	C.	E.	St. Joseph	Buchanan
Scott, Lewis Peloto	C.	E.	Carlisle, *Ky.*	
Seares, Lauren Vane	E.	E.	Corona, *Cal.*	
See, Russell Alva	C.	E.	New Florence	Montgomery
Seltzer, Hymen Aaron	C.	E.	St. Louis City	
Shirky, Howard M.	C.	E.	Norborne	Carroll
Smith, Lewis Ruffner	C.	E.	Kansas City	Jackson
Steed, Arthur	M.	E.	St. Charles	St. Charles
Steinan, Sidney	C.	E.	Mobile, *Ala.*	
Stewart, James Robin	C.	E.	Chillicothe	Livingston
Stone, Guy	E.	E.	Walton, *Kan.*	
Stump, Harry C.	M.	E.	Nevada	Vernon
Van Hook, Lawrence Newell, Jr.	E.	E.	Ferguson	St. Louis
Vincent, Louis Lester	E.	E.	Provo, *Utah*	
Volker, Albert	E.	E.	Tarkio	Atchison
Wallace, Edward P.	E.	E.	Pierce City	Lawrence
Wallace, Frank Douglas	C.	E.	Centralia	Boone
Waters, Robert Powers	C.	E.	St. Joseph	Buchanan
Wetherell, Dwight Nelson	C.	E.	Carthage	Jasper
Whitmore, Archie Alden	C.	E.	Hoberg	Lawrence
Williams, Benj. Robinson, Jr.	C.	E.	Silex	Lincoln
Wiseley, John Hal	C.	E.	Carbon, *Texas*	
Wiseman, Edward Wallace.	C.	E.	Washington, *D. C.*	
Ziegenbein, Earle	C.	E.	Cameron	Clinton

Freshman Class.

Akin, Lee	E.	E.	Brookfield	Linn
Albertson, Maurice Merton.	E.	E.	Aurora	Lawrence
Alley, Hadley John	E.	E.	Princeton	Mercer
Alspaugh, John G.	E.	E.	Sedalia	Pettis
Anderson, Rivers McNeil	C.	E.	Carlinville, *Ill.*	
Arey, Benjamin R.	E.	E.	Sedalia	Pettis
Bailey, Roscoe Scott	E.	E.	Pleasant Hill	Cass

DEPARTMENT OF ENGINEERING—Continued.

Name.			Postoffice.	County.
Baker, John William	M.	E.	Sedalia	Pettis
Balkenhol, Jacob	E.	E.	Jefferson City	Cole
Barham, James Fuller	E.	E.	Camden Point	Platte
Bayliss, Charles	C.	E.	Mt. Vernon	Lawrence
Bell, William Everett	E.	E.	Nelson	Saline
Besheer, William Claude	C.	E.	Willow Springs	Howell
Bird, Allen Warren	C.	E.	Harrisonville	Cass
Blakeslee, Henry Nelson	M.	E.	Savannah	Andrew
Blees, Frederick James	M.	E.	Macon	Macon
Blood, Charles Reader	E.	E.	York, *Neb.*	
Bluck, Joseph Roscoe	C.	E.	Nevada	Vernon
Borth, John Frederick	C.	E.	Doniphan	Ripley
Brinkmeier, Arnold E. H.	E.	E.	Augusta	St. Charles
Burk, Lloyd Byron	E.	E.	Butler	Bates
Canaday, Carl Bertram	M.	E.	Blythedale	Harrison
Carmichael, James Troy	M.	E.	Augusta, *Montana*	
Carpenter, Martin Edwin	C.	E.	Centaur	St. Louis
Castlio, Jasper Newton	C.	E.	Howell	St. Charles
Chambers, Harold McCollough	E.	E.	Crestline, *Ohio*	
Chandler, Otto Baxter	E.	E.	West Plains	Howell
Coan, Orrville David	C.	E.	Columbia	Boone
Cochran, William Wallace	C.	L.	Boonville	Cooper
Cockburn, Harold Wardell	C.	E.	St. Joseph	Buchanan
Cohen, Herman Barr	E.	E.	Carthage	Jasper
Cole, James Alexander	C.	E.	Columbia	Boone
Cooper, Charles Hudson	C.	E.	Ft. Smith, *Ark.*	
Coulter, Roy Samuel	E.	E.	Columbia	Boone
Couper, Harold William	E.	E.	St. Louis City	
Cowan, Leslie	C.	E.	Boston, *Mass.*	
Cox, Charles Hardin	E.	E.	Joplin	Jasper
Curry, William G.	C.	E.	Kansas City	Jackson
Curtis, Lloyd H.	E.	E.	St. Louis City	
Davis, Floyd Wesley	E.	E.	Farmington	St. Francois
Dixon, Arthur Conant	M.	E.	St. Louis City	
Donhowe, Alonzo Hjorth	M.	E.	Stony City, *Iowa*	
Drane, Harry Judson	C.	E.	Charleston	Mississippi
Drum, Roy Allen	E.	E.	Marble Hill	Bollinger
Dunbar, Irwin	M.	E.	Columbia	Boone
Edgar, Osmer	C.	E.	St. Louis City	
Edwards, Ambrose Carr	M.	E.	St. Charles	St. Charles
Eppstein, Veit Gentry	E.	E.	Columbia	Boone
Fauquier, Raymond Homer	E.	E.	Bonne Terre	St. Francois
Foote, Francis Bailey	E.	E.	St. Louis City	
Gardner, Douglas Dorsey	C.	E.	Kansas City	Jackson

DEPARTMENT OF ENGINEERING—Continued.

Name.			Postoffice.	County.
Geary, Frank James	C.	E.	Kansas City	Jackson
Geery, Walter Norris	E.	E.	Fayette	Howard
George, Ralph Douglass	E.	E.	Gunn City	Cass
Gerard, John William	E.	E.	Kansas City	Jackson
Gilchrist, K. P.	E.	E.	Lathrop	Clinton
Goldman, Earl J.	C.	E.	Kansas City	Jackson
Green, Charles Arsamus	M.	E.	Brookfield	Linn
Grimm, H. Wilkie	E.	E.	Rich Hill	Bates
Haddaway, Thomas Sherwood.	E.	E.	St. Louis City	
Hahn, Charles W.	C.	E.	St. Louis City	
Halstead, Jasper Mortimer	E.	E.	Breckenridge	Caldwell
Harris, Fred Durand	C.	E.	Lebanon	Laclede
Harvey, Count	C.	E.	Fairport	DeKalb
Haydon, Fred W.	E.	E.	West Plains	Howell
Hegwood, James V.	C.	E.	Cameron	Clinton
Hennessy, Joseph Desley	C.	E.	Kahoka	Clark
Heptonstall, Arthur Edwin	M.	E.	Lagonda	Charlton
Hereford, Herbert Wood	E.	E.	Odessa	Lafayette
Herman, George Paul	C.	E.	DeSoto	Jefferson
Hickman, A. Otto	E.	E.	Mt. Vernon	Lawrence
Himmelberger, Harry I.	M.	E.	Cape Girardeau	Cape Girardeau
Hodgin, Barney	C.	E.	Maitland	Holt
Hodson, Robert Williams	C.	E.	Carthage	Jasper
Holmes, Henry Reace	C.	E.	Troy	Lincoln
Holser, Floyd Lester	E.	E.	Moberly	Randolph
Horan, Harold Joseph	C.	E.	Grandin	Carter
Hornback, Michael Edwin	C.	E.	Chillicothe	Livingston
Houston, Ralph Graham	C.	E.	Columbia	Boone
Huntsman, Hugh Norton	C.	E.	Macon City	Macon
Johns, Orrick Glenday	C.	E.	St. Louis City	
Johnson, Clifford Harold	E.	E.	Sedalia	Pettis
Kautz, Karl Frederick	C.	E.	Hamilton	Caldwell
Keller, Adrain Deboe	E.	E.	Columbia	Boone
Kennedy, Frederick Thomas.	M.	E.	Sedalia	Pettis
Kessler, William Wallace	C.	E.	Hermann	Gasconade
King, Edwin Charles	C.	E.	Sweet Springs	Saline
Kingsbury, Walter	C.	E.	Columbia	Boone
Kirtley, William Beauford	E.	E.	Columbia	Boone
Kitagawa, Tome	C.	E.	Tokio, *Japan*	
Kline, Arthur Jonathan	C.	E.	Savannah	Andrew
Knappenberger, William Ralph	E.	E.	Kansas City	Jackson
Kobrock, John Peter	E.	E.	Sedalia	Pettis
Lang, Edwin Vollers	C.	E.	Kahoka	Clark

DEPARTMENT OF ENGINEERING—Continued.

Name.			Postoffice.	County.
Lankford, Charles Hugo	E.	E.	Barnard	Nodaway
Lasar, Edward Gibson	M.	E.	St. Louis City	
Leake, John Bertram	E.	E.	Kansas City	Jackson
Leaphart, Frank Eugene	C.	E.	Brookfield	Linn
Lee, Colin Kingsley	E.	E.	Kansas City	Jackson
Leedom, Thomas Pleasant, Jr	E.	E.	Columbia	Boone
Leedy, Charles Meredith	C.	E.	Cameron	Clinton
Lefevre, Guy	E.	E.	Victoria, *Texas*	
Leonard, Dulany Ellsworth	E.	E.	Moberly	Randolph
Lewis, Floyd Edward	E.	E.	Tulsa, *Okla.*	
Light, Henry Raymond	C.	E.	Brooklyn, *Iowa*	
Lipscomb, Ben Deweese	E.	E.	Columbia	Boone
Mackie, David James	E.	E.	Carbon, *Okla.*	
Maclay, William Harrison	C.	E.	Tipton	Moniteau
Mainland, Sinclair William	E.	E.	Hannibal	Marion
Marquette, Harry Ellis	E.	E.	Slater	Saline
Martin, Wallace Dean	M.	E.	Lebanon	Laclede
Miller, Chester Clay	E.	E.	Jefferson City	Cole
Miller, Victor Joseph	C.	E.	Joplin	Jasper
Mitchell, James Roscoe	E.	E.	Nevada	Vernon
Mitchell, Porter Jackman	C.	E.	Centralia	Boone
Mitchell, John Earl	C.	E.	Moberly	Randolph
Moore, Philip A	Ch.	E.	St. Louis City	
Morgan, Elmer Minor	E.	E.	San Bernardino, *Cal.*	
Morris, Verle Weaver	E.	E.	Columbia	Boone
Morrison, Scott D	E.	E.	Mound City, *Kans.*	
Nelson, Joe Colby	M.	E.	Hannibal	Marion
Nelson, Donald Marr	M.	E.	St. Louis City	
Nickell, Lindsey Ambrose	E.	E.	Marceline	Linn
Paulette, Robert Justice	C.	E.	St. Joseph	Buchanan
Potter, Harry Lionberger	C.	E.	Paducah, *Ky.*	
Quigley, Lewis Andrews	M.	E.	Sedalia	Pettis
Randall, Guy Bonsal	E.	E.	Joplin	Jasper
Redford, Edwin Lee	E.	E.	Centralia	Boone
Reed, George Crutchley	E.	E.	Breckenridge	Caldwell
Reintjes, George Peter	C.	E.	Kansas City	Jackson
Riordan, John Francis	M.	E.	Hannibal	Marion
Roberts, Alden Wesley	C.	E.	Auxvasse	Callaway
Roberts, Hubert	E.	E.	Columbia	Boone
Robinson, Charles R	M.	E.	St. Louis City	
Roe, Brink Phillip	C.	E.	Marceline	Linn
Rogers, Hugh Chilton	C.	E.	Lexington	Lafayette
Rooker, James Francis	E.	E.	Brookfield	Linn
Rothschild, Felix	C.	E.	Kirksville	Adair

DEPARTMENT OF ENGINEERING—Continued.

Name.		Postoffice.	County.
Rountree, Roscoe	E. E.	Ash Grove	Greene
Rucker, Vernon Smuts	M. E.	Brunswick	Chariton
Rutledge, Roscoe Erite	E. E.	Mt. Vernon	Lawrence
Saunders, William Howard	E. E.	St. Joseph	Buchanan
Schulze, Charles Fred. William	E. E.	Vandalia	Audrain
Sennott, Harry Brey	C. E.	Waterloo, *Ill.*	
Sexton, Charles Eli	M. E.	Kansas City	Jackson
Short, Robert Rogers	E. E.	Versailles	Morgan
Shuck, Glenn	E. E.	Brookfield	Linn
Shuttee, Albert Burgess	C. E.	West Plains	Howell
Simrall, Thomas Smith	C. E.	Sweet Springs	Saline
Smith, Wilbur Wallace	C. E.	Kansas City	Jackson
Smith, Frank Welles	C. E.	St. Joseph	Buchanan
Southwell, Winton William	C. E.	Maitland	Holt
Spraker, Ralph Emerson	M. E.	Rich Hill	Bates
Spratt, Walter Mills	C. E.	Weston	Platte
Stevens, Harold Crosby	C. E.	Roswell, *N. M.*	
Stiffelman, Joseph Abel	C. E.	St. Louis City	
Stine, Errol J.	C. E.	St. Joseph	Buchanan
Stucky, Merrill Morgan	C. E.	Carthage	Jasper
Sturges, Gould Allen, Jr.	E. E.	Sedalia	Pettis
Swenson, Howard	C. E.	Columbia	Boone
Tanner, Philip Arthur	M. E.	Carson, *Iowa*	
Tedrow, Harvey	C. E.	St. Joseph	Buchanan
Thacher, Frank Barclay	E. E.	Odessa	Lafayette
Thomson, Proctor	C. E.	Columbia	Boone
Tidd, Harry	C. E.	Columbia	Boone
Tipton, Ernest Moss	E. E.	Columbia	Boone
Vosholl, William Henry	E. E.	Linn	Osage
Walkup, Ralph	Ch. E.	Nevada	Vernon
Weaver, Harrison Eaton	E. E.	Windsor	Henry
Whipple, Carl A.	E. E.	Eldorado Springs	Cedar
Wiest, Sam William	E. E.	Columbia	Boone
Wilder, Allen Bliss	M. E.	St. Louis City	
Williams, John R.	Ch. E.	Albany	Gentry
Wilson, Roy Albert	M. E.	Edina	Knox
Winzenburg, Louis Marshall	E. E.	Sedalia	Pettis
Wolf, Fritz Wiehrstedt	E. E.	Bonne Terre	St. Francois
Wood, James Leslie	E. E.	Labadie	Franklin
Wornall, Douglas Buchanan	E. E.	Kansas City	Jackson
Wright, Frank Lester	C. E.	Laplata	Macon

DEPARTMENT OF ENGINEERING—Continued.

Name.	Postoffice.	County.
Special Students.		
Ankeney, Stewart Hill.....C. E.	Eldred, *Florida*	
Baxter, William Harrison....C. E.	Kansas City . .....Jackson	
Bennett, Wayne . .....E. E.	Paducah, *Ky.*	
Beverburg, Hubert Edward Fred. . .....E. E.	Gillett, *Ark.*	
Blackford, Wayne Nathaniel..C. E.	Shelbina . .....Shelby	
Boothe, Elmer Judson.....E. E.	Uvalde, *Texas*	
Conger, Walter Gurden.....E. E.	Independence . .....Jackson	
Crouch, Menta Leslie.....C. E.	Columbia . .....Boone	
Dunlap, Ray . .....C. E.	Mexico . .....Audrain	
Fausek, Arthur John.....M. E.	St. Louis City.....	
Gardner, Mathew Scott.....Ch. E.	St. Louis City.....	
Glick, Harvey Cleveland.....E. E.	Eldorado Springs . .....Cedar	
Graves, Harry . .....C. E.	Lees Summit . .....Jackson	
Horrell, William . .....C. E.	Pasadena, *Cal.*	
Houston, Clay Fulton.....C. E.	Malta Bend . .....Saline	
Hutchison, Richard Ellis....C. E.	Syracuse . .....Morgan	
Joplin, William Andrew.....E. E.	Caruthersville . .....Pemiscot	
O'Daniel, Nolen . .....C. E.	Pattonsburg. . .....Daviess	
Prosser, William Gittings....C. E.	St. Louis City.....	
Sharp, Herbert Nicholas.....E. E.	Montgomery City . ....Montgomery	
Spindle, Stanley Mark.....C. E.	Louisville, *Ky.*	
Stapf, Eugene William.....E. E.	St. Louis City.....	
Thomas, William Hyde.....C. E.	Greenville, *S. C.*.....	

School of Mines and Metallurgy.

Name.	Postoffice.	County.
Graduate Students.		
Brown, Joseph Jarvis, Jr.....	Cuba City, *Wis.*.....	
Chamberlain, Jarry Carleton.....	Gila Bend, *Ariz.*.....	
Duncan, Gustavus, A.....	Boston, *Mass.*	
Gregory, James Albert.....	Monterey, *Mexico*	
Heck, Elmer Cooper.....	Hermisillo, *Mex.*	
Hoffman, Ray Eugene.....	Hannibal . .....Marion	
Laizure, Clyde McKeever.....	Millers, *Nevada*	
Nesbitt, William Corsey.....	Soda Springs, *Idaho*.....	
Wilfley, Clifford Redman.....	Marionville . .....Nodaway	

SCHOOL OF MINES AND METALLURGY—Continued.

Name.	Postoffice.	County.
Senior Class.		
Armstrong, Richard Edward	Howell, *Mich.*	
Baker, Chas. Armstrong	Fort Madison, *Iowa*	
Barrett, Edward Phillip	Hastings, *Nebr.*	
Benedict, Ralph Robert	Kansas City	Jackson
Bowles, John Hyer	Rolla	Phelps
Boyer, George Hewitt	St. Louis City	
Dudley, Boyd, Jr.	Gallatin	Daviess
Flynt, Frank Le Roy	Rolla	Phelps
Fowler, James Duncan	Hughesville	Pettis
Harper, Frank William	Dallas, *Texas*	
Hase, Herman Carl	Kansas City	Jackson
Hynes, Dibrell Pryor	Fort Smith, *Ark.*	
Johnson, Horace Asahel	Brookfield	Linn
Kellogg, George Fred	Skidmore	Nodaway
Klockmann, Otto Ernest	St. Louis City	
Lyneman, Felix Anthony	Denver, *Colo.*	
Mann, Horace Tharp	Canon City, *Colo*	
Mapes, Harold Thomas	LaCananea, Sonora, *Mexico*	
Mix, Ward Barr	Hailesboro, *N. Y*	
Moore, Frederick Arnold	Rolla	Phelps
Murray, Edwin Phelps	Lake City, *Mich*	
Neer, Don Morgan	Winfield, *Kans.*	
Nye, Alfred Leo	Kearney, *Nebr.*	
Philippi, Paul Andrew	St. Louis City	
Sandord, John Joseph	Dansville, *N. Y*	
Sedivy, Miles	Cleveland, *Ohio*	
Thornhill, E. B	Gray Summit	Franklin
Wood, Clyde Rex	Sheridan, *Wyo.*	
Junior Class.		
Anderson, Hector George Sylvester	Detroit, *Mich.*	
Baueris, William Albert	Chicago, *Ill.*	
Boyer, Fred T	St. Louis City	
Butler, Reginald Henry Brinton	Leeds, *England*	
Cavazos, Enrique	Saltillo, Coah, *Mexico*	
Chamberlain, Ernest Lorenzo	Rolla	Phelps
Chinn, Raleigh Walter Corbert	Hannibal	Marion
Clarke, William Daniel	Rolla	Phelps
Clark, William Newton	Jewell City, *Kans*	
Compton, James Crawford	Independence	Jackson
Dobbins, Walter	Champaign, *Ill.*	
Don, De Forrest	Rock Island, *Ill*	

SCHOOL OF MINES AND METALLURGY—Continued.

Name.	Postoffice.	County.
Dunn, Theodore S	Waukegan, *Ill.*	
Easley, George A	Walker	Vernon
Ellicano, Victoriano	Masinloc, Zambales, *P. I.*	
French, Charles Lewis	St. Louis City	
Garst, Harvey Oden	Cabool	Texas
Hall, William Simpson	Pleasanton, *Kans.*	
Hamm, Roscoe Conckling	Kansas City	Jackson
Hinsch, Van Buren	Davenport, *Ia.*	
Illinski, Alexis Xavier	Nashville, *Tenn.*	
Judy, Philip S	Camp Point, *Ill.*	
Kendrick, Robert Thomas	St. Louis City	
Keniston, Carl Winthrop	Plymouth, *N. H.*	
Kibs, Harry Clay	Socorro, *New Mexico*	
Ladd, Hammond	Rolla	Phelps
Langsdale, Byron Withers	Kansas City	Jackson
Leming, Paul Buchmann	Cape Girardeau	Cape Girardeau
Loveridge, Frank Richard	Batavia, *N. Y.*	
McCrae, Rowe Francis	Rolla	Phelps
Masany, Mark Stephen	Dunkirk, *N. Y.*	
Michael, Pearl Frederick	Rolla	Phelps
Mook, Robert Lee	St. Louis City	
Nachtman, Frank	Junction City, *Kans.*	
Ohnsorg, Norman Lloyd	Rolla	Phelps
Poindexter, Urban Hatfield	Kansas City, *Kan.*	
Pollard, Arthur Lewis	Batavia, *N. Y.*	
Radovich, John Chris	Bisbee, *Ariz.*	
Ross, Donald	Independence, *Kan.*	
Seamon, William Henry, Jr	Chihuahua, *Mexico*	
Shah, Aaron	Vilna, *Russia*	
Spoffard, Howard Nelson	St. Louis City	
Talwar, Fatch Chand	Gujranwala, *India*	
Walker, Leland Ross	St. Louis City	
Wander, Ernest	Chicago, *Ill.*	
Watson, Ralph Wilhelm	Salt Lake City, *Utah*	
Whitener, Oscar Miles Cornelius	Fredericktown	Madison
Wishon, Albert Emory	Fresno, *Cal.*	
Wolf, Edgar Joseph	Mt. Vernon, *Ind.*	
Sophomore Class.		
Allen, Robert Sexton	Kansas City	Jackson
Blake, Frank Orris, Jr	Pittsburg, *Pa.*	
Blaylock, Daniel Webster	Flat River	St. Francois
Bowles, James Joseph	Rolla	Phelps
Bunten, James	Canon City, *Colo.*	

SCHOOL OF MINES AND METALLURGY—Continued.

Name.	Postoffice.	County.
Burdick, Charles Adrian	Dansville, *N. Y.*	
Clark, John Charles	Chicago, *Ill.*	
Connelly, Harry Wade	Independence, *Kan.*	
Coon, Arthur Clemons	Kansas City	Jackson
Detweiler, Milan Harrison	Lebanon	Laclede
Detweiler, Alfred Nicks	Lebanon	Laclede
Diaz, Emilio	Santiago, *Chili*	
Dosenback, Benjamin Harrison	St. Louis City	
Drake, Robert Lemon	Kansas City	Jackson
Dye, Robert Emmet	Joplin	Jasper
Dykes, Guy	Rolla	Phelps
Farrar, Monroe	Mattoon, *Ill.*	
Flynn, Milton	Monterey, *Mexico*	
Forman, John Kavanaugh	McFall	Gentry
Fraser, Keith Colt	Lyndonville, *N. Y.*	
Garnett, Roscoe A	Pueblo, *Colo.*	
Garza, Antonio	Saltillo, Coah, *Mexico*	
Gray, Howard Dean	Wausem, *Ohio*	
Gregory, Clay, Jr	Joplin	Jasper
Harlan, John Dee	Moberly	Randolph
Harris, Walter Theodore	Salt Lake City, *Utah*	
Harrison, Walter Edward	Salem	Dent
Hill, Fred Wilson	Mt. Vernon, *Ia.*	
Holmes, Oliver Wendell	Rolla	Phelps
Humphrey, Brighton W	Rolla	Phelps
Insley, Earl Frank	Kansas City	Jackson
Jobes, Charles Taylor	Kansas City	Jackson
Karte, Anton F	DeSoto	Jefferson
Killian, Ralph Daniel	Perryville	Perry
List, Elmer	Cape Girardeau	Cape Girardeau
McNutt, Vachel Harry	Monroe City	Monroe
Menefee, George Gilmore	Stanford, *Ky.*	
Miller, Christian R., Jr	Sedalia	Pettis
Minor, Harmon Edwin	Canen City, *Colo.*	
Morgan, Allen Ray Dearborn	Rolla	Phelps
Palomares, Rodolofo de S	Mexico City, *Mexico*	
Park, Albert	Rolla	Phelps
Peeso, William D	Junction City, *Kans.*	
Peterson, Howard K	New Rochelle, *N. Y.*	
Philips, Ralph N	Chicago, *Ill.*	
Pierce, Colwell Arba	Kansas City	Jackson
Porri, Louis Joseph	St. Louis City	
Porth, Harry William	Kansas City	Jackson
Ramey, Carey Floyd	Georgetown, *Ky.*	
Schmidt, Sidney Randolph	Chicago, *Ill.*	

SCHOOL OF MINES AND METALLURGY—Continued.

Name.	Postoffice.	County.
Smith, Earl McColloch	Little Rock, *Ark.*	
Smith, Harvey Edson	St. Louis City	
Smith, Van Hoose	Little Rock, *Ark.*	
Stewart, John Sloane, Jr.	Mansfield, *Ohio*	
Thornberry, Martin Harmon	Rella	Phelps
Traughber, Charles W.	Centralia	Boone
Twyman, George Thomas, Jr.	Independence	Jackson
Valencia, Carlos	Sutlan, Jalisco, *Mexico*	
Vogt, George C.	Davenport, *Ia.*	
Abbott, Edward Reese	Mansfield, *Ohio*	
Abernathy, George Elmer	Willow Springs	Howell
Adams, Henry Farnum	Prescott, *Ariz.*	
Allen, Ernest	Forrest, *Ill.*	
Ball, Ralph Harlan	Gardner, *Kans.*	
Beach, James Keller	Kansas City	Jackson
Bingham, Raymond Alexander	Watertown, *Mass.*	
Blake, True Walter	Maywood, *Ill.*	
Bosa, Hector	Lima, *Peru*	
Bradt, Albert Leonard	St. Louis City	
Burgher, Clarence	Rolla	Phelps
Caplan, Frank	St. Louis City	
Caples, Russell Bigelow, Jr.	Glasgow	Howard
Carroll, Roland Tregoe	Baltimore, *Md.*	
Chase, James Howard	Logansport, *Ind.*	
Coaske, Paul E.	St. Louis City	
Cody, Benjamin Horade	St. Joseph	Buchanan
Coover, Louis Lincoln	Springfield	Greene
Copeland, Robert Nathaniel	Chelsea, *Mass.*	
Curless, Thomas	Liberal	Barton
Daves, Lee Colburn	St. Louis City	
Deacon, Arthur	St. Louis City	
Diaz, Washington Theodore	Santiago, *Chili*	
Elmore, Carlos Enrique	Lima, *Peru*	
Engelmann, E. W.	Cape Girardeau	Cape Girardeau
Flynn, Francis James	St. Joseph	Buchanan
Ford, Harold Percy	St. Joseph	Buchanan
Forrester, D. L.	Oakland, *Cal.*	
Garcia, Emilio	Rinconada, N. L., *Mexico*	
Garza, Andres	Saltillo, Coah, *Mexico*	
Garcia, Herman	Rinconada, N. L., *Mexico*	
Grosberg, Alex.	St. Louis City	
Harris, D. Deane	Rolla	Phelps
Heydecker, Carroll T.	Waukegan, *Ill.*	
Jett, Daniel Boone	Sedalia	Pettis
Jones, Howard Hilts	Mexico City	

SCHOOL OF MINES AND METALLURGY—Continued.

Name.	Postoffice.	County.
Jones, Kenneth Hugh	Lawrence, *Nebr.*	
Kline, Daune Montgomery	Rolla	Phelps
Kurz, Adolph	St. Louis City	
List, Edgar	Cape Girardeau	Cape Girardeau
Lunak, Otto Allen	St. Louis City	
Macomber, Sumner Cooley	Des Moines, *Ia.*	
Mann, Frank Clark	Springfield	Greene
Martin, Harry H., Jr.	Fredericktown	Madison
Mitchell, Robert Bruce	Walker	Vernon
Moore, Loyd Weaver	Hannibal	Marion
McCeughran, James E.	New York, *N. Y.*	
Nachtman, Ralph	Junction City, *Kans.*	
Nason, Stanley L.	West Haven, *Conn.*	
Parent, George Lee	Marshall	Saline
Pudewa, Arthur	Chicago, *Ill.*	
Radcliffe, Donald Hewson	Webster Grove	St. Louis
Raj, Shio	Lahore, *India*	
Randolph, Oscar Alan	Kansas City	Jackson
Smith, George Randall	Utica	Livingston
Smith, James Wickliffe, Jr.	Miller School, *Va.*	
Stroup, Thomas Andrew	Lewistown	Lewis
Swenson, Howard Hubard	Torreon, Coah, *Mexico*	
Taylor, Clarence Merlin	Jackson	Cape Girardeau
Townsend, Frank Edgar	Belgrade	Washington
Wheeler, Joseph Franklin	Marshall	Saline
Williams, Conway Guild	Jackson	Cape Girardeau
Wolf, Harold M.	Mt. Vernon, *Ind.*	
Special Students.		
Baumgardner, Julius Ward	Abingdon, *Ill.*	
Beckner, Fred Goodrich	San Antonio, *Texas*	
Bedford, Arthur Hardy	Auckland, *New Zealand*	
Brown, Hanelin	Lake Springs	Dent
Chew, Lindell	St. Louis City	
De Jong, E. T.	St. Louis City	
Espriu, Rafael	Mexico City, *Mexico*	
Goldman, Jay Maurice	St. Louis City	
Jones, William Hamilton	St. Louis City	
Owen, Harvey Skidmore	St. Louis City	
Pilcher, Gubrey Gaybert	St. Louis City	
Renfrow, Thomas Owen	Rolla	Phelps
Riede, Fred Edward	Canon City, *Colo.*	
Shockley, Percy C.	Monterey, *Mexico*	
Siegmund, Walter F.	St. Louis City	

SCHOOL OF MINES AND METALLURGY—Continued.

Name.	Postoffice.	County.
Smith, Duncan S.....	Rockford, *Ill.*	
Stahl, William Glenroy.....	Little Rock, *Ark.*.....	
Tomlinson, Edward Lorraine.....	ElPaso, *Texas*	
Townsend, Richard Henry.....	Aspen, *Colo.*	
Vogt, John Gerheart, Jr.....	Trenton, *Ill.*	
Weems, Frank Eugene.....	Sulphur, *Okla.*	

Summer Session.

Adams, Minnie Frances.....	St. Louis	
Adams, Mary Lizzie.....	Curryville	Pike
Alford, Clarence Elmer.....	Vandalia	Audrain
Allder, Etta Mildred.....	Cane Hill	Cedar
Anderson, Oscar Elwood.....	Columbia	Boone
Arbogast, Mattie S.....	Knobnoster	Johnson
Arnold, Clara May.....	Fort Smith, *Ark.*.....	
Arthur, Walter	Reeds	Jasper
Anwater, Frank Devillo.....	Hale	Carroll
Axline, Aaron Guy.....	Nevada	Vernon
Baker, Bettie May.....	Columbia	Boone
Baker, Myrtle	Tuscumbia	Miller
Ball, Virginia Lee.....	Curryville	Pike
Barbee, Frederick Hurdman.....	Webb City	Jasper
Barnett, Nellie Mary.....	Louisiana	Pike
Barnett, Mary J.....	Columbia	Boone
Barnwell, James O'Neill.....	Fernandina, *Fla.*	
Barton, Frank	Southwest City	McDonald
Baskerville, Elizabeth Rimmons...	Nashville, *Tenn.*	
Baum, Kathryn Eleanor.....	Clinton	Henry
Bayliss, Charles	Columbia	Boone
Bayliss, Paul	Columbia	Boone
Beatty, Edward	Knobnoster	Johnson
Ball, Louis Albert.....	St. Louis City.....	
Benoist, Chas. Louis.....	St. Louis City.....	
Benson, Anna Elizabeth.....	Faulkner, *Iowa*	
Bentley, James Forrest.....	Huntsville	Randolph
Benton, Carolyn Belle.....	Higginsville	Lafayette
Beswick, George Wharton.....	Liberty	Clay
Betz, Annette	Kansas City	Jackson
Betz, Martha	Kansas City	Jackson
Bishop, Erma Roselind.....	Pennsboro	Dade
Blackburn, Lulu	Kansas City	Jackson

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Blackford, Wayne Nathaniel	Shelbina	Shelby
Blackmar, Rebecca Louise	Columbia	Boone
Blair, Anna Lou	Springfield	Greene
Blair, Jessie Alice	Sedalia	Pettis
Blythe, Mary Eva	Mexico	Audrain
Boardman, Emma	Harrisonville	Cass
Boggs, Forest Lenoir	Huntsdale	Boone
Bohon, Elmer	Ewing	Marion
Boucher, Andrew S	Dexter	Stoddard
Boyd, Allie	Montrose	Henry
Boyd, Clarence Eugene	Spartanburg, *S. C.*	
Branam, David Walter	Milligrove	Mercer
Bray, Willis Joseph	Fredericktown	Madison
Breece, Thomas Elza	Windsor	Henry
Briggs, Pearle Sarah	Carson, *Iowa*	
Brightman, Samuel Charles	Lancaster	Schuyler
Brous, Bertrand Caley	Jasper	Jasper
Brown, Buford Otis	Denton, *Texas*	
Brown, Helen M	El Reno, *Okla.*	
Brown, John Hart	St. Louis	
Brown, Wm. Salem	Shelbyville	Shelby
Brunner, Beulah May	Fairmont, *Okla.*	
Bryan, Byrd	Newtown	Sullivan
Bryan, Lillian	Fayette	Howard
Burton, Hallie	Gallatin	Daviess
Bush, Ernest Forrest	Fulton	Callaway
Cannon, Helen	Kansas City	Jackson
Carney, Alberta	Chillicothe	Livingston
Carothers, Wm. J	Excelsior Springs	Clay
Carr, Chas. Frederick	Rucker	Boone
Carter, Jesse Lee	Columbia	Boone
Case, Mrs. Eva Warner	Kansas City	Jackson
Castilo, Clora W	O'Fallon	St. Charles
Chandler, Emeline Lucinda	Warsaw, *Ill.*	
Chandler, Wm. Henry	Butler	Bates
Chace, Burgess Thomas	Kansas City	Jackson
Chase, Edgar	California	Moniteau
Chilton, Kittie Cume	Stanberry	Gentry
Cho, Toda	Tochigi, *Japan*	
Clarahan, Mamie Margaret	Columbia	Boone
Clements, Daniel Wallace	Ingalls, *Ark.*	
Clifford, Chas. A	College Mound	Macon
Cochran, Ethen Allen	Boonville	Cooper
Cockefair, Wm. Raymond	Unionville	Putnam
Cogan, Mary Elizabeth	Kansas City	Jackson

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Collier, Marietta	Dearborn	Platte
Comer, Arthur Oliver	Nevada	Vernon
Cook, Jennie	Centralia	Boone
Cook, Stella	Centralia	Boone
Cowan, Robt. Dinwiddie	Aldrich	Polk
Craig, Mary Mahala	Knobnoster	Johnson
Crickette, Mima Dale	Stanberry	Gentry
Cross, William	Columbia	Boone
Crow, Clara	Cincinnati, *Iowa*	
Dailey, Arthur L	Hale	Carroll
Dakan, Carl Spencer	Stanberry	Gentry
Dakan, Daisy Irene	Stanberry	Gentry
Darling, Ella Thomas	Greenville, *Miss.*	
Davis, Clara	Columbia	Boone
Davis, Lora	Columbia	Boone
Davis, Mary	Carthage	Jasper
Davis, John E	Liberty	Clay
Davis, Clara Nelson	Platte City	Platte
Davis, Robt. E. Lee	Leasburg	Crawford
Davis, Sheldon Emmor	Eldorado Springs	Cedar
Demand, Lafayette Stanley	Warrensburg	Johnson
DeVinna, Lawrence Estill	Versailles	Morgan
Dooley, Marion Silvester	Houston	Texas
Dorst, Louise Marie	Oakville	St. Louis
Douglas, Mrs. Hattie	Stanton	Franklin
Drake, Chas. Baile	Warrensburg	Johnson
Dralle, Loretta Della	Canton	Lewis
Driver, Wm. Lloyd	Reeds	Jasper
Edelen, Lena Louise	Kahoka	Clark
Egelhoff, Clarence Raymond	Kansas City	Jackson
Egger, Anna Kathrina	Lamar	Barton
Ellis, Zadia E	Kansas City	Jackson
Erwin, Samuel N	Tyrone	Texas
Essex, Mrs. Lou R	Lamar	Barton
Estes, Clarence	Liberty	Clay
Fair, Bessie	Trenton	Grundy
Faulkner, Elizabeth	Lamar	Barton
Ferguson, Zoe	St. Joseph	Buchanan
Ferris, Elizabeth Reed	Moberly	Randolph
Feurt, Osta Belle	Jameson	Daviess
Finley, Rolla B	Mexico	Audrain
Firth, Ola	Cowgill	Caldwell
Fisher, Mary McFarlane	Columbia	Boone
Fletcher, Hazel	Macon	Macon
Flynt, Wm. Richard	Hallsville	Boone

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Fombell, Elizabeth	Sweet Springs	Saline
Ford, Mary Frances	Columbia	Boone
Fox, Ora Virginia	Macon	Macon
Fox, Waldo	Granby	Newton
Frakes, Susie Henderson	Columbia	Boone
Francis, Marion Lafayette	Bryon	Osage
Fray, Mary Frances	Bowling Green	Pike
Frazier, Ione	Columbia	Boone
Friese, Bessie	Seybert	Dade
Fulkerson, Etta	Kansas City	Jackson
Funk, Eugene Edgar	Kirksville	Adair
Funk, Wade Hampton	Kansas City	Jackson
Galbreath, Squire Mack	Coffeyburg	Daviess
Gardner, Clara	Joplin	Jasper
Garnett, Bessy May	Columbia	Boone
Garrison, Noble Lee	Bethel	Shelby
Gentry, Lukie E	Montgomery City	Montgomery
Gill, Elizabeth	Mexico	Audrain
Gill, Nora Jessie	Braymer	Caldwell
Glassmire, Chas. Little	Philadelphia, *Pa.*	
Gleason, Frances Ethel	Lebanon	Laclede
Goodding, Josie	Macon	Macon
Graf, Leander Guy	Hermann	Gasconade
Grant, Mae	Zalma	Billings
Graves, Lydia C	Rocheport	Boone
Gray, Myrtle R	Pattonsburg	Daviess
Gruner, Caroline Frances	St. Louis	
Guthrie, Lulu	Columbia	Boone
Gwinn, Richard Luther	Lees Summit	Jackson
Hackley, Jodie	Corder	Lafayette
Haines, Frances Edith	Columbia	Boone
Hall, Madison Floyd	Cap, *Va.*	
Hall, Wanna Agnes	Trenton	Grundy
Hamilton, Mrs. Alva R	Kansas City	Jackson
Hankins, Homer Harvey	Sigourney, *Iowa*	
Hare, Walter Benjamin	Columbia	Boone
Harman, Robert V	Liberty	Clay
Harris, Robert Charles	Cannelsburg, *Ind.*	
Harrison, Albert Grant	Collinsville, *Texas*	
Harrison, Agnes Wilson	Kennett	Dunklin
Harrison, Frances	Mexico	Audrain
Harry, Bertram	Jasper	Jasper
Harvey, Hubert Marcellus	Marshall	Saline
Harwood, Maud Leigh	Kansas City	Jackson
Hawkins, Geo. Lorimer	Hematite	Jefferson

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Hayes, Martin L.	Marshall	Saline
Hedges, Peter Thompson	Purdin	Linn
Hedges, Mrs. P. T. (Ina)	Purdin	Linn
Heinberg, Henry Edgar	Ashton	Clark
Hengy, Eva	Holden	Johnson
Henke, Arthur Raymond	St. Louis	
Henry, Craine Thompson	Kennett	Dunklin
Hertig, George Corbin	Columbia	Boone
Herzog, Oswald Aaron	Kerrville, *Texas*	
Hill, Mrs. Anna Lyle	Butler	Bates
Hillebrand, Edwin	Marthasville	Warren
Hoffmeister, Mabel E.	Golden City	Barton
Holt, Althea Erna	Columbia	Boone
Hopkins, Nelson Orlando	Westboro	Atchison
Horn, Ernest	Princeton	Mercer
Houston, Roscoe Fenton	Kansas City	Jackson
Houston, Sallie Davis	Sheldon	Vernon
Hout, Gus J.	Carthage	Jasper
Howard, Ida Elizabeth	Columbia	Boone
Hudson, Carl Bibb	Montgomery	Montgomery
Hudson, Anna	Vandalia	Audrain
Hudson, Charles Benoni	Calhoun	Henry
Hudson, Catherine Agnes	Vandalia	Audrain
Hughes, Uriel Wright	Coalgate, *Okla.*	
Hunt, Edith	Chillicothe	Livingston
Hunt, Nell	Chillicothe	Livingston
Hupe, Wm. Fred	Montgomery	Montgomery
Huston, Nannie Mae	Memphis	Scotland
Hutcherson, Lena Clara	Vandalia	Audrain
Hutton, Oscar Alson	Anabel	Macon
Imbert, Louis	St. Joseph	Buchanan
Irion, Frederick Christian	Cape Girardeau	Cape Girardeau
Irion, Theophil William Henry	Cape Girardeau	Cape Girardeau
Jackson, Andrew, Jr	Carrollton	Carroll
Jackson, Harriet	Clinton	Henry
Jacobs, Mamie	Columbia	Boone
Jadwin, Mary Elizabeth	Columbia	Boone
James, Virginia	Kansas City, *Kans.*	
Jarvis, Reynolds Fletcher	Columbia	Boone
Jeffries, Alonzo	Hallsville	Boone
Jesse, Mary D.	Litwalton, *Va.*	
Johnson, Fannie Juliet	Lebanon	Laclede
Johnson, Wm. Clyde	Vandalia	Audrain
Johnston, Caltha A.	Kirksville	Adair
Johnston, James A.	Redoak	Montgomery

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Johnston, Mary Elizabeth	Kirksville	Adair
Jones, Abner	Lancaster	Schuyler
Jones, Ernest Victor	Bronaugh	Vernon
Jones, Reeves Hopkins	Sturgeon	Boone
Jones, Robt William	Columbia	Boone
Jordan, Sara Marie	Denver, *Col.*	
Kampschmidt, August Wm	Gerald	Franklin
Kasman, Fred Herman	Etlah	Franklin
Kaelke, Norman Wesley	Lockwood	Dade
Keats, Juanita	Maysville	DeKalb
Kelly, Bessie	Atchison, *Kans.*	
Kerr, Nelson	Edgerton	Platte
Keyte, J. Allen	Breckenridge	Caldwell
Kidd, Florence	Corder	Lafayette
Kilburn, Henry Clay	Carthage	Jasper
Kleinschmidt, Fred	St. Louis	
Knepper, Florence Burr	Carthage	Jasper
Krausnick, Walter, Jr	St. Louis	
Kuhl, Philip	Columbia	Boone
Lacey, Wm. Hamilton	Maitland	Holt
Lafon, Mrs. Thos. (Mary Hale)	Clayton	St. Louis
Laidlaw, John	Purdy	Lisa
Laidlaw, Mrs. Mabel Howard	Purdy	Lisa
Laidlaw, Wayne Noblet	Higginsville	Lafayette
Landers, Effie May	West Plains	Howell
Landers, Maud Lee	West Plains	Howell
Langenberg, Emma	St. Louis	
Lawson, Mrs. Mary Shields	Columbia	Boone
Lauman, Belle	St. Louis	
LeCompte, Pearl	Pierce City	Lawrence
Lee, Edgar Desmond	Rush Hill	Audrain
Leet, Theron Hale	Laddonia	Audrain
Lenhart, Pearl	Kansas City	Jackson
Lilly, Ida B	Trenton	Grundy
Lionberger, Wm. Harvey	New Florence	Montgomery
Loomis, Chas. Francis	St. Louis	
Lueber, Chas. Gottlieb	Dover, *Ark.*	
Lukans, Edith	Kansas City	Jackson
Mack, Nellie Maud	Kingston	Caldwell
Magill, Dorothea	Columbia	Boone
Magruder, Porter Eli	Troy	Lincoln
Magruder, Don Gilmer	Hunter, *Okla.*	
Malott, James Isaac	Preston	Hickory
March, John Gooden	Sturgeon	Boone
Margrave, Fannie	Medoc	Jasper

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Marquis, Eva Malvena	Kansas City	Jackson
Martin, Nellie	Odessa	Lafayette
Mason, Frances	Mexico	Audrain
Maxwell, Julia	St. Joseph	Buchanan
Maxwell, Wm. Robert	Columbia	Boone
Mayhew, Arline	Bradford, *Ill.*	
Melcher, Benj. Franklin	Jerico Springs	Cedar
Mayer, Mrs. Stella S. (Max)	Columbia	Boone
Michaud, Mathilde A	St. Louis	
Miller, Ernest Blythe	Leonora, *West. Australia*	
Miller, Nathan B., Jr	Springfield	Greene
Miller, Geo. Frederick	Farmington	St. Francois
Miller, Fred.	Fortuna	Moniteau
Milroy, Mollie S	Louisiana	Pike
Monroe, Walter Scott	Albany	Gentry
Monsees, Albert Herman	Smithton	Pettis
Moon, Alfred C	Carthage	Jasper
Moreell, Caroline	St. Louis	
Morris, Richard Err	Lockwood	Dade
Morrison, Anne Hendry	Kansas City	Jackson
Morrow, Walter Ewing	Warrensburg	Johnson
McClure, Anna M	DeSoto	Jefferson
McClure, Clarence Henry	Hartville	Wright
McCollom, Mrs. Pansy Prewitt	Burlington, *Iowa*	
McCollough, Albert W	Tarkio	Atchison
McCoy, Susan Gertrude	Carthage	Jasper
McDonald, Cora	Joplin	Jasper
McGill, Caroline	Lebanon	Laclede
McPherson, James Edward	Martin City	Jackson
Nagle, Ethel Harris	Chillicothe	Livingston
Nardin, Frances Louise	Columbia	Boone
Needham, Mrs. Ida May	Salem	Dent
Needham, John Bradford, Jr	Salem	Dent
Neil, Emma	Kansas City	Jackson
Nemoitin, Anna	Luzon, *N. Y.*	
Nicholas, Hugh Lansford	Clarksville, *Ark.*	
Nicol, David Allen	Carbondale, *Kans.*	
Nixon, James Patheric, Jr	Lebanon	Laclede
Norman, Frances M	Stanberry	Gentry
Northcutt, Ina Klesking	Columbia	Boone
Nulf, Jacob Hamilton	Jacksonville	Randolph
O'Rear, Miranda Allen	Boonville	Cooper
Owen, Laura Frances	Paradise	Clay
Paine, Alice	Louisiana	Pike
Palmer, Jno. McCarty	Fayetteville, *Ark.*	

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Palmer, Robert Conrad	St. Louis	
Palmer, Leroy Sheldon	St. Louis	
Parker, Edith	Columbia	Boone
Patrick, Ruth U	Bowling Green	Pike
Patterson, Melvin Joseph	Lexington	Lafayette
Patton, Lowell R	Clarksville	Pike
Pearson, Thos. Milton	Rhea, *Ark.*	
Pechstein, Louis Augustus	Clinton	Henry
Pemberton, Walker S	Armstrong	Howard
Penn, John William	Columbia	Boone
Perkins, Sue Scott	Joplin	Jasper
Phillippi, Harry Claire	Rockport	Atchison
Phillips, Edna May	Urich	Henry
Phillips, Harry Ashton	Bates City	Lafayette
Pickrell, Claude Dildine	St. Louis	
Pickrell, Frances Gertrude	St. Louis	
Pierce, James William	Cape Girardeau	Cape Girardeau
Pillaus, Wm. Clinton Lee	Winkler, *Texas*	
Pirkey, Marion Ely	Louisville, *Ky.*	
Pirkey, Russell Johnson	Louisville, *Ky.*	
Porter, Julia	Lees Summit	Jackson
Porter, Ruth	Lees Summit	Jackson
Potter, Caryl Potter	St. Joseph	Buchanan
Potter, Ulysses Grant	Hiawatha, *Kans.*	
Powell, A. Tilden	Purdin	Linn
Powell, Mrs. Lulu May (A. T.)	Purdin	Linn
Powell, Charles Albert	Macon	Macon
Powell, Ila Opal	Macon	Macon
Price, Emma Louise	Joplin	Jasper
Price, Elizabeth Johnson	Mexico	Audrain
Primm, Roy Lee	Windsor	Henry
Priestley, Georgie V	Hannibal	Marion
Pritchard, Bertha	Moberly	Randolph
Proffer, Luther Everett	Whitewater	Cape Girardeau
Pryor, Herbert	Paynesville	Pike
Pryor, Hattie	Paynesville	Pike
Pulliam, Annie Ewing	Muskogee, *Okla.*	
Pyles, Marshall Ashby	Pence Springs, *W. Va.*	
Randall, Merle	Poplar Bluff	Butler
Raymond, Irene	Liberty	Clay
Reavis, Elizabeth	Lamonte	Pettis
Reed, Letha Cornelia	Columbia	Boone
Renz, Elenore	Weston	Platte
Reffy, George Frank	St. Louis	
Rickeman, Hugo Albert	Racine, *Wisc.*	

SUMMER SESSION—Continued.

Name.	Postoffice.	County.
Robinson, Charles Edward	Joplin	Jasper
Roby, Grace	Rocheport	Boone
Rocek, Kate	St. Louis	
Rocheford, Louise	Columbia	Boone
Ross, Lewis	Knox City	Knox
Ross, Dora Edna	Clearmont	Nodaway
Ross, Floyd Elmer	Willard	Greene
Rowe, Harry C	Joplin	Jasper
Russum, Chas. Edgar	Carthage	Jasper
Sampson, Mamie W	Columbia	Boone
Saunders, Wm. Howard	St. Joseph	Buchanan
Saunders, Chas. Winston	Hickman, *Ky.*	
Schaeffer, Clara Rozell	Hannibal	Marion
Schiefelbusch, Ed. F	Andover	Harrison
Schonfield, Mabelle	St. Louis	
Schricker, Mina	Tipton	Moniteau
Schultz, Mrs. Dorothy T. N. (W. H.)	Columbia	Boone
Schwabe, George Blaine	Columbia	Boone
Schwabe, Laura Jo	Columbia	Boone
Scott, John Grafton	Columbia	Boone
Scott, Lillian	Columbia	Boone
Scott, Elea Bell	Tipton	Moniteau
Scott, Thos.	Craig	Holt
Scrutchfield, Irene	Excello	Macon
Seley, Genevieve Mary	Columbia	Boone
Senour, Edith Kathryn	Pasadena, *Cal.*	
Sewall, Helen Alberta	Farmington, *Maine*	
Sharp, May Nathalie	Kansas City	Jackson
Shaw, Ella May	Memphis	Scotland
Shockley, Minnie	Joplin	Jasper
Short, Clara Zelpha	Webb City	Jasper
Shutts, Daniel	Galesburg, *Ill.*	
Sievers, Minnie	Centralia	Boone
Sievers, John Frederick	Marion, *Kans.*	
Simpson, George	Oak Hill	Crawford
Simpson, Albert Dulaney	Charleston	Mississippi
Singleton, Susie Estelle	Shelbyville	Shelby
Skidmore, Mark	Springfield	Greene
Smith, Aubrey Garrison	California	Moniteau
Snyder, Edith Logan	Hannibal	Marion
Somerville, Leslie G	Mercer	Mercer
Sommers, Charles Max	Racine, *Wisc.*	
Spencer, Effie D	St. Joseph	Buchanan
Spencer, Kenneth	St. Louis	
Spicer, Ines	Columbia	Boone

SUMMER SESSION—Continued.

Name.	Postoffice.	Coun
Stagner, Bert Allen	Hale	Carr
Staples, Thos. Starling	Carrollton, *Ga.*	
Starin, Genevieve Alida	Columbia	Boo
Starrett, George Simpson	St. Joseph	Buchan
Steele, Stella Elizabeth	Columbia	Boo
Stephens, Otta J	Columbia	Boo
Stevens, Beatrice Marguerite	Kansas City	Jack
Stewart, Ida Margaret	Columbia	Boo
Stone, Mabel S	Macon	Mac
Stone, Guy	Walton, *Kans.*	
Stone, Clarence Robert	Clarksdale	DeK
Stone, Mrs. Bessie	Columbia	Boo
Stout, Louise Jane	Trenton	Grun
Stuart, Ada Abbot	Joplin	Jasp
Stumberg, George Wilfred	St. Charles	St. Cha
Summers, James Stephen	Sharon, *Pa.*	
Swainson, Anna E	Nevada	Vern
Swanson, Arthur Malcolm	Greentop	Schuy
Taylor, Susas Shelby	Columbia	Boo
Thompson, Samuel Monroe, Jr	Clinton	Henr
Thornton, Frank, Jr	St. Joseph	Buchan
Thrailkill, Anna	Odessa	Lafaye
Timmons, Winnie	Columbia	Boo
Tompson, Guy Aminious	Savannah	Andre
Traynor, Nellie	St. Joseph	Buchan
Tupes, Ernest E	Raymore	Cas
Turnbull, Blanche Dorothy	Lamar	Bar
Tuthill, Ida May	Baxter Springs, *Kans.*	
Tuttle, Isaac Ruby	Columbia	Boo
Tyler, Eleanor Murdoch	St. Louis	
Vandiver, Lillian	Columbia	Boo
Vasconcellos, Alice	Louisiana	Pik
Vaughan, Thos. Everet	Tuscumbia	Mill
Vaughn, Earnest VanCourt	Columbia	Boo
Wadell, Elsie Winship	California	Monit
Walker, Mamie Clare	Columbia	Boo
Weever, Gertrude Rachel	Kansas City	Jack
Weese, William Joshua	Sheridan	Wort
Welsh, Harold Llewellyn	Kansas City	Jack
Westhoff, Catherine	LaGrange	Lew
Wharton, Mary	Columbia	Boo
White, Walter Evert	Drexel	Cas
White, Mary Roper	Trinidad, *Col.*	
Wilkes, Maysel	Caruthersville	Pemis
Williams, Chas. Hamilton	Marble Hill	Bollin

SUMMER SESSION—Continued.

Williams, Jesse Raymond.....	Van Buren, *Ark*.....
Willis, Fifille	Columbia . .....Boone
Willson, Maud Videlia.....	St. Joseph . .....Buchanan
Winkler, Emilie Alva.....	Muskogee, *Okla.* . .....
Wolff, Lucy Henrietta.....	Kansas City . .....Jackson
Wommack, Albert Linzy.....	Strafford . .....Greene
Wood, James Madison.....	Boyer . .....Wright
Wood, Oval Anthony.....	Harrisburg . .....Boone
Wood, Virgil A.....	Holt . .....Clay
Wright, Edward Franklin.....	Odessa . .....Lafayette
Wright, Kirby Smith.....	Columbia . .....Boone
Wright, Herman Micah.....	Columbia . .....Boone
Wright, Ruby J.....	Appleton City . .....St. Clair

UNIVERSITY EXTENSION CENTER, ST. LOUIS.

Anderson, (Mrs.) J. S.	Molloy, Margaret.
Buckley, Nora.	Moore, Elizabeth.
Busch, Edwin.	Morrison, George H.
Brodix, (Mrs.) N. C.	Miller, Edwin B.
Bribach, Esther.	McClain, (Mrs.) W. H.
Claridge, Celia R.	McNamara, Frances.
Cross, William T.	Overland, (Mrs.) Petrina.
Dyer, Margaret R.	Prey, Nina.
Greensfelder, M. B.	Reis, Jeannette.
Hill, Louise.	Richardson, (Mrs.) Florence W.
Knefler, (Mrs.) D. W.	Schulenburg, Agnes.
Knapp, (Mrs.) Edith.	Smith, Ellen D.
Keber, Cornelia.	Smith, (Mrs.) Jesse P.
Langenburg, Ida.	Snider, Jennie.
Lausch, Dr. John.	Somerville, Althea.
Letzig, Emma.	Weiss, (Mrs.) Minnie.
Lynch, (Mrs.) Catherine.	Wise, Rose G.
Lynch, Marie.	Yendell, (Mrs.) W. H.
Luckow, Lolla.	

UNIVERSITY EXTENSION CENTER, KANSAS CITY.

Alger, Maria.
Baker, Elizabeth.
Betz, Alma.
Betz, Martha.
Blocker, Clarence.
Busch, Ella A.
Curtis, Grace.
Cogan, Mary.
Edwards, Jennie.
Garin, Lulu.
Gerhart, Myrtle.
Grimes, Cora M.
Goldberg, Mayme.
Goodenough, Vida.
Haren, Elizabeth.
Heller, Maude.
Hooker, Minnie.
Ingram, Mary E.
Jeffers, Harriett.
Jones, Marguerite.
Knight, Louise.
Lenhart, Pearl.
Mahan, Anna.
Morris, Clara.
Mossiron, Anne.
Pederson, Bertha.
Phillips, Ella.
Pierson, Gertrude.
Robinson, Florence.
Scott, Florence.
Sharp, Nathalie.
Stevens, Beatrice.
Taylor, Y. M.
Weaver, Gertrude.
Wickey, Rose.
Wockey, Helen.

UNIVERSITY EXTENSION CENTER, JOPLIN.

Barton, Frank.
Bullock, F. W.
Daugherty, C. F.
Davis, Mary.
Elliff, A. C.
Faulkner, Elizabeth.
Fenn, Nell.
Gardner, Clara.
Heaton, Elsie.
Ivie, Bess.
Johnson, Enid.
Kirby, R. N.
Knight, L. G.
Leach, Iva.
Linton, Ida M.
Livermore, Bessie.
Montgomery, Dorothy.
McDonald, Cora.
Nickell, W. A.
Peck, Daisy.
Perkins, Sue.
Price, Emma L.
Pyle, Anna.
Regan, Agnes.
Regan, Florence Kayes Mary.
Rice, Lena.
Scott, Gertrude.
Smith, Ethel.
Smoot, Viola.
Stuart, Ada.
Tuthill, Ida.

UNIVERSITY EXTENSION CENTER, CLINTON.

Baum, Kathryn Eleanor.
Bradbury, Inez Estelle.
Breece, Thomas Eliza.
Briggs, Ethel May.
Callaway, Frank Sanders.
Calvird, Enid.
Denney, Frank Otho.
England, Mary.
Fewel, Theressa Olive.
Higgins, Charles Edson.
Hillebrand, Henry, Jr.
Hudson, Charles Benani.
Hughes, John.
Journey, Myrthe Lynn.
Lee, Arthur.
Melton, Emma.
Morse, Lucy Allen.
Payne, Oletha Marie.
Ramsey, Senah.
Renfro, Ethel May.
Roberts, Thomas Maurice.
Salisbury, Harry Jefferson.
Smith, Letcher Ewell.
Strain, Allie Isabel.
Thompson, Nellie Quarles.

UNIVERSITY EXTENSION CENTER, MEXICO.

Baldwin, Carrie E.
Carter, Frances.
Finley, Rolla B.
Gill, Elizabeth.
Hawthorne, L. B.

SUMMARIES.

I. Enrollment by Departments.

I.	College of Arts and Science:	
	Graduate Students	74
	Seniors	114
	Juniors	142
	Sophomores	220
	Freshmen	353
	Specials	48
	Total	951
II.	Teachers College:	
	Graduate Students	24
	Seniors	59
	Juniors	70
	Sophomores	70
	Freshmen	74
	Specials	21
	Total	318
III.	College of Agriculture and Mechanic Arts:	
	Graduate Students	13
	Seniors	24
	Juniors	29
	Sophomores	32
	Freshmen	58
	Specials	21
	Home Economics	55
	Short Course (Animal Husbandry)	83
	Short Course (Plant Production)	19
	Short Course (Dairy)	4
	Short Course (H. & A. H.)	2
	Short Course (H., A. H. & D)	1
	Total	341
IV.	Law Department:	
	Seniors	55
	Second Year	64
	First Year	77
	Specials	41
	Total	237
V.	Department of Medicine:	
	Fourth Year	1
	Third Year	1
	Second Year	2
	First Year	2
	Specials	1
	Total	6
VI.	Department of Engineering:	
	Graduate Students	4
	Seniors	8
	Juniors	8
	Sophomores	10
	Freshmen	17
	Specials	2
	Total	57
VII.	Department of Journalism:	
VIII.	Graduate Department:	
	Arts and Science	71
	Teachers College	24
	Agriculture	13
	Engineering	4
	School of Mines	
	Total	112
IX.	School of Mines and Metallurgy (*Rolla*):	
	Graduate Students	1
	Seniors	3
	Juniors	4
	Sophomores	8
	Freshmen	17
	Specials	11
	Total	29
X.	Missouri Military School (at *Columbia*)	107

II. Students in Gymnasium.

Men	355	Women	195

III. Young Men and Young Women.

(a) *Columbia:*	Men.	Women.
Regular Session	1489	508
Summer Session	222	230
Totals	1711	738
Counted twice	84	58
Net totals	1627	680

(b) *Rolla:*	Men.	Women
	229	0

Columbia	1627	680
Rolla	229	0
Totals	1856	680

IV. ENROLLMENT BY DEPARTMENTS—REGULAR SESSION.

Department.	Graduate	Senior	Junior	Sophomore	Freshman	Special	Total
Arts and Science	74	114	142	220	353	48	951
Teachers College	24	59	70	70	74	21	318
†Agriculture	13	24	29	32	58	21	†341
Law	.....	55	64	.....	77	41	237
Medicine	.....	9	8	11	31	6	65
Engineering	40	59	88	118	179	23	507
Total at Columbia	151	320	401	451	772	160	2,419
School of Mines—Rolla	9	28	49	59	63	21	229
Total Class Registration	160	348	450	510	835	181	2,648

[(†) Total includes 55 registered in Home Economics department and 109 registered in the "Short Winter Course" in Agriculture.]

Registration at Columbia, Summer Session	452
Registration at Columbia, Regular Session	1997
Registration at Rolla, Regular Session	229
	2678
Registration counted twice	142
Total net enrollment { at Columbia 2307 / at Rolla 229 }	2536

Adding to the above figures 134 students enrolled in University Extension Centers, Clinton, Joplin, Kansas City, Mexico and St. Louis, we have a total of 2670 students who received University instruction.

V. COUNTIES REPRESENTED IN THE UNIVERSITY.

Counties.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Total
Adair	3	8			
Andrew	1	8			
Atchison	3	10	1		
Audrain	13	33	3		
Barry		4			
Barton	5	16	1	1	
Bates	2	22			
Benton		1			
Bollinger	2	2			
Boone	73	331	41	1	
Buchanan	10	46	5	3	
Butler	1	2	1		
Caldwell	4	17			
Callaway	1	10			
Cape Girardeau	4	8	1	6	
Carroll	4	22	1		
Carter	1	1			
Cass	3	21	2		
Cedar	3	13	1		
Chariton		19			
Christian		1			
Clark	2	9			
Clay	8	10	3		
Clinton		11			
Cole	2	9			
Cooper	2	18			
Crawford	2				
Dade	4	11			
Dallas		1			
Daviess	4	16		1	
DeKalb	2	8			
Dent	2	1		2	
Douglas		2			
Dunklin	2	2			
Franklin	3	10	1	1	
Gasconade	1	4			
Gentry	6	27	1	1	
Greene	5	18	1	2	
Grundy	4	9	1		
Harrison	1	14			
Henry	9	20	1		
Hickory	1				
Holt	2	19			
Howard	2	9		1	
Howell	2	8	1	1	

COUNTIES REPRESENTED IN THE UNIVERSITY—Continued.

Counties.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Iron		2			2
Jackson	27	136	5	15	173
Jasper	22	59	1	2	82
Jefferson	2	9		1	12
Johnson	7	18	3		22
Knox	1	7			8
Laclede	4	13	3	2	16
Lafayette	9	22	2		29
Lawrence	1	18	2		17
Lewis	2	8		1	11
Lincoln	1	14			15
Linn	6	26	2	1	31
Livingston	4	18		1	23
McDonald	1	3			4
Macon	9	26	3		32
Madison	1	2	1	2	4
Marion	4	18	1	3	24
Mercer	3	10	1		12
Miller	2	5			7
Mississippi	1	2			3
Moniteau	4	11			15
Monroe		11		1	12
Montgomery	6	16	2		20
Morgan	1	7	1		7
New Madrid		3			3
Newton	1	5			6
Nodaway	1	19		2	22
Osage	1	8			9
Pemiscot	1	7	1		7
Perry		2		1	3
Pettis	3	43		3	49
Phelps				20	20
Pike	11	27	2		36
Platte	4	8	1		11
Polk	1	3			4
Pulaski		2			2
Putnam	1	11	1		11
Ralls		9			9
Randolph	4	20	2	1	23
Ray		11			11
Reynolds		1			1
Ripley		3			3
St. Charles	2	11			13
St. Clair	1	6			7
St. Francois	1	4		1	6

COUNTIES REPRESENTED IN THE UNIVERSITY—Continued.

Counties.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
St. Louis	2	24		1	27
Saline	3	26	1	2	30
Schuyler	3	6	1		8
Scotland	2	4			6
Shannon		1			1
Shelby	4	14	3		15
Stoddard	1	8			9
Stone		1			1
Sullivan	1	5			6
Texas	2	2	1	1	4
Vernon	5	24	3	1	27
Warren	1	1			2
Washington		7		1	8
Webster		1			1
Worth	1	6	1		6
Wright	2	4			6
City of St. Louis	22	107	13	27	143

VI. STATES, TERRITORIES, DEPENDENCIES AND FOREIGN COUNTRIES REPRESENTED IN THE UNIVERSITY.

States.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Alabama	1	3			4
Arkansas	6	19		4	29
California	1	8	1	2	10
Colorado	2	5		7	14
Connecticut		1		1	2
Florida	1	1			2
Georgia	1				1
Idaho				1	1
Illinois	3	27		17	47
Indiana	2	4		3	9
Iowa	5	19	2	5	27
Kansas	8	18	3	10	33
Kentucky	3	10	3	2	12
Maine	1				1
Maryland				1	1
Massachusetts		5		3	8
Michigan		4		3	7

STATES, TERRITORIES, DEPENDENCIES, AND FOREIGN COUNTRIES REPRESENTED IN THE UNIVERSITY—Continued.

States.	Summer Session.	Regular Session.	Duplicate.	Rolla.	Net Total.
Minnesota		1			1
Mississippi	1	3			4
Missouri	395	1742	142	111	2106
Montana		2			2
Nebraska		6		3	9
Nevada				1	1
New Hampshire				1	1
New Jersey				1	1
New York	1	14	1	9	23
Ohio	1	16		4	21
Oklahoma	6	28	2	1	33
Oregon		2			2
Pennsylvania	2	4	1	1	6
South Carolina	1	1			2
Tennessee	1	8		1	10
Texas	4	13	2	3	18
Utah		3		2	5
Vermont		1			1
Virginia	2	1		1	4
Washington		1			1
West Virginia	1	4			5
Wisconsin	2	5	1	1	7
Wyoming				1	1
District of Columbia		1			1
Africa		1			1
Argentine Republic		4			4
Arizona				3	3
Australia	1				1
Canada		1			1
Chili				2	2
China		1			1
England				1	1
Germany		1			1
India				2	2
Japan	1	2	1		2
Mexico		2		16	18
New Mexico		7			7
New Zealand				1	1
Peru				2	2
Philippine Islands				1	1
Roumania		1			1
Russia				1	1

CERTIFICATES, DEGREES AND HONORS, COMMENCEMENT, 1907.

(*A*). *COLUMBIA.*

CERTIFICATES.

Department of Military Science and Tactics.

Alphonso Vincil Bayley,
Charles Raymond Bender
Frederick Edmund Briggs,
Charles Andrew Case,
Mortimer Bartlett Collins,
John Waggoner Curry,
Morris Edwin Derfler,
William Lloyd Driver,
Ray Dunlap,
Marvin Edwart Fawks,
Ober Jesse Fries,
Harold John Gordon,
Orin Wilson Harrah,
Frank Lee Holt,
Harry Griffith Hunter,
Arthur Anwyl Jones,
Samuel Andrew Kruse,
Samuel Eugene Lawrence,
Edgar Robert Meyer,
Allen Laws Oliver,
Emmett Cleveland O'Neal,
Roy Lewis Phelps,¶
Anson Harvey Rees,
Ansley Hope Roberts,
Angelo Scott,
Bernard Daniel Simon,
Ernest E. Tupes,
Benjamin Clay Weakley,
David Earl White,
Edmund Wilkes, Jr.,
Lawrence Lewis Winans,
Ira Dutress Winter.

Teachers College.

Life Certificate to Teach in High Schools (with specialties as indicated.

Ruth Olive Covington (Mathematics, German),
Ruth Fitzgerald (English, History),
Frances Ethel Gleason (English),
Edith Emily Grace (Zoology, Mathematics),
Elizabeth Agnes Hamilton (English, German),
Susan Elizabeth Killam (English),
Helen Mar Krabiel (Greek, Latin),
Anna Moreell (English, German),
Nettie Lee Murry (English),
Ina Kloeking Northcutt (English, History),
Nettie Violet Pickett (Mathematics),
Charles Winston Saunders (Chemistry, Physics),
Edith Logan Snyder (English, History),
Faye Louise Stewart (English, History),
Jean Elsie Taylor (Latin, English, History),
Eleanor Murdoch Tyler (History, Latin),
Mamie Clare Walker (Zoology),
Dixie Rush Westlake (Botany, Zoology, History),
Charles Hamilton Williams (History, English).

Life Certificate to Teach in Elementary Schools.

Edith Parker, Minnie Snellings,
Bettie Wetherell

Certificate to Teach for Two Years in High Schools (with specialties as indicated)

Eliza Galbraith (English, Manual Training),
Clara Gardner (History),
Susan Gertrude McCoy (Latin, History),
Mabel Margaret Moore (English, History, French),
Edith Parker (Manual Training),
Park Powell (French),
Edith Amelia Seymour (English, Latin),
Berenice Wilson Vance (English, History).

Certificate to Teach for Two Years in Elementary Schools.

Gertrude Cosgrove, **Helen** Mann.

Department of Medicine.

In the Training School for Nurses, Diploma Awarded.

Maud Elizabeth Boyle, **Alma Marcella** Sherman.

DEGREES.

In the Department of Medicine, the Degree of Doctor of Medicine. (M. D.)

Luther Scott James, **Charles** Wade Simison.

Department of Law.

Degree of Bachelor of Laws (LL. B.)

Forrest C. Donnell, *cum laude*,
Frank Charles Hesse, *cum laude*,
Vernon Morthland, *cum laude*,
William Thompson Nardin, *cum laude*,
A. B., University of Missouri, '03.
Samuel Wilcox, *cum laude*,
Monte Baer,
Leslie E. Bates,
A. B., University of Missouri, '04.
Sardis William Bates,
A. B., Ottenheim University.
Harry Baxter Beckett,
Boss Boley,
Ray Thomas Bond,
Robert Breckenridge Caldwell,
A. B., University of Missouri, '03.
George Robert Chamberlin,
Joseph Raymond Clevenger,
A. B., University of Missouri, '05.
George Edward Clifford,
Philander Goodall Crowe,
Robert Newton Denham, Jr.,
Thomas Edward Elliott,
Elwood Bernard Frawley,
Ira Scott Gardner,
Milnor Earl Gleaves,
Glen Roy Horner,
Norman Joseph Johnson,
Ralph P. Johnson,
Edward Everett Kite,
Ray Elmer Lee,
Ph. B., Northwestern University.
Frank Edwin Lee,
Frank Craig Haskell Livingston,
Chester Arthur Marr,
Elbert Spencer Miner,
Charles Wade McAllister,
Thomas Sharp McChesney,
Samuel Drake Newkirk,
John Henry Newman,
Victor Edward Phelps,
Jerome Warner Pier,
Louis Plank,
Clarence Edwin Randall,
Emil Roehrig,
William Lester Simpson,
Douglas Stewart, Jr.,
Eben Lavert Taylor,
James Arlington Taylor,
Fred Wilton Temple,
Leslie Lamar Utterback,
Murray Drake Watson,
William Waye, Jr.,
George Rowe Whitmore,
Clayton Maurice Williams,

School of Agriculture.

1. *Degree of Bachelor of Science in Agriculture (B. S. in Agr.).*

Edward Augustus Cockefair,
Floyd Lee Kelso,
George Franklin King,
William Bradford Lanham,
John William Read,
Benjamin William Tillman.

2. *In the Graduate Department—Degree of Master of Science in Agriculture (M. S. in Agr.).*

Mary Alice Cochel,
(B. S. in Agr., Univ. of Mo., '06.)
Abel Hugh Chapman,
(B. S. in Agr., Miss. Agr. Col., '04.)
Charles Arthur Cole,
(B. S. in Agr., Univ. of Mo., '06.)
John Henry Norton,
(B. S. in Agr., Univ. of Mo., '07.)

School of Engineering.

1. *Degree of Bachelor of Science in Civil Engineering (B. S.).*

William Randolph Benson, Jr.,
Harry Edmund Bilger,
Joseph Hugh Brooking,
Marcus White Caldwell,
William Andrew Davidson,
William Clarence Davidson,
Walter Scott Gearhart,
Arthur Raymond Hardy,
Fred Reuben Jacoby,
Alfred Harry Labsap,
Harry LaRue,
Oscar Franklin Lindquist,
Walter Cyrus Logan,
Harold Marsh,
John Brent Miller,
Andrew Jackson McKenzie,
James Benedict Phelan,
William Edmund Price,
Oscar Henry Schmidt,
Robert Edward Lee Tatum,
Ben Shore Walker,
Donald John White Wheeler,
Will Warren Williams,
Ada Wilson.

2. *Degree of Bachelor of Science in Electrical Engineering (B. S.).*

Ralph Boyd Bowman,
Clark Arthur Briggs,
Daniel Lee Brundige,
Francis James Bullivant,
Rudolph Eugene Burger,
William Hutson East,
Henry Charles Hesch,
William Lamott Hunker,
Leslie Erskine Allan Kelso,
Terrence Orlando Kennedy,
Fred Henry Krog,
James Albertson Reeves, Jr.,
Michael Herbert Schnapp,
Charles William Seibel,
Given Victor,
Mendel Penco Weinbach,
Bert Alfred Williamson,
Golder Pinkney Wilson.

3. *Degree of Bachelor of Science in Mechanical Engineering (B. S.).*

Theodore Eugene Briell,
Marlin Emory Brown,
Louis Harry Winkler.

4. *In Graduate Department—Degree of Civil Engineer (C. E.).*

Denzil Worrell Coe,
B. S. in C. E. Univ. of Mo., '05.
Dorsey Berry Duncan,
B. S. in C. E., Univ. of Mo., '05.
Ernest Franklin Robinson,
B. S. in C. E., Univ. of Mo., '03.

5. *In Graduate Department—Degree of Mechanical Engineer (M. E.).*

acob H. Wallace,
B. S. in M. E., Univ. of Ill., '03.

Austin Hubbard Welch,
B. S. in M. E., Univ. of Mo., '04.

6. *In Graduate Department—Degree of Electrical Engineer (E. E.).*

William Woodson Harris,
B. S. in E. E., University of Missouri, '03.

Teachers College.

1. *Degree of Bachelor of Science in Education. (B. S.)*

Wilkie Myrtle Adams,
Mary Ellen Campbell,
Ruth Olive Covington,
William Perry Divers,
Henry Hileman Edmiston,
Ruth Fitzgerald,
Eugene Edgar Funk,
Frances Ethel Gleason,
Edith Emily Grace,
Elizabeth Agnes Hamilton,
Arthur Martin Hitch,
Susan Elizabeth Killam,
Helen Mar Krabiel,
James Edward McPherson,
Anna Moreell,
Nettie Lee Murry,
Ina Klosking Northcutt,
Nettie Violet Pickett,
Charles Winston Saunders,
Edith Logan Snyder,
Faye Louise Stewart,
Jean Elsie Taylor,
William Washington Thomas,
Eleanor Murdoch Tyler,
Berenice Wilson Vance,
Mamie Clare Walker,
Dixie Rush Westlake,
Charles Hamilton Williams,
James Madison Wood.

College of Arts and Science.

1. *Degree of Bachelor of Arts (A. B.).*

Clarence Elmer Alford, of Class of '06.
Oscar Elwood Anderson,
Charles Arnold,
Clara Martin Avery,
Roma Brashear,
Helen Frances Bridges,
Mary Ellen Campbell,
Ruth Olive Covington,
Menta Leslie Crouch,
Walter Edward Dandy,
Fred Morris Dearing, as of the Class of '01,
Ray Vaughan Denslow,
Elizabeth Ham Deuel,
Marion Sylvester Dooley
Mabel Helen Duncan,
Jennie Adeline Duvall,
Ralph Edgar Ellis,
Cecil Keefer Eastman,
Fred Ward Eastman,
James Taylor Ferguson, Jr.,
Ruth Fitzgerald,
Tim Alvano Francis,
Lily Sue Hostetter,
Caroline Elizabeth Jesse,
Helen Moore Johnson,
Helen Mar Krabiel,
John Albert Kurtz,
Emma Langenberg,
Jewette Emeline LeCompte,
Ruskin Lhamon,
Frank De Leon Lombar,
Clarence Columbus Long,
Emily Maguire,
Daniel Dulany Mahan,
Otto Kent Megee,
Benjamin Franklin McCarroll,
Herbert Nelson McKee,
Thomas Franklin Montgomery,
Anna Moreell,
Thomas Grover Orr,
Nettie Violet Pickett,
Frank Willis Plunkett,
Thomas Tarlton Railey,
Elizabeth Robinson,

COLLEGE OF ARTS AND SCIENCE—Continued.

Susie Henderson Frakes,
Bessie Frieze,
Vernon Frieze,
Eliza Galbraith,
Wilber James Gibson,
Edith Emily Grace,
Mary Elizabeth Grady,
Caroline Frances Gruner,
Elizabeth Agnes Hamilton,
Bertha Marion Harlan,
Mary Ecel Hays,
Albert Hogan,
Sam B. Sebree,
Lynn Newman Secord,
Raphael Eustace Semmes, Jr.,
Clyde Sheldon Shepard,
Dan Gish Stine,
Jean Elsie Taylor,
Berenice Wilson Vance,
Anna Wolfrom,
William Francis Woodruff,
Kirby Smith Wright,
Virginia Florence Yancey,
Daisy Young.

2. *Degree of Master of Arts (A. M.).*

Laura Alice Boyd,
A. B., Tarkio College, '06.
Virginia Bouchelle Dyas,
A. B., University of Missouri, '02.
Bayard Franklin Floyd,
A. B., University of Indiana, '05.
Eleanor Madge Gordon,
A. B., University of Missouri, '06.
Fannie Virginia Guthrie,
A. B., University of Missouri, '05.
B. S., University of Missouri, '06.
Jane Annetta Harrison,
A. B., B. S., Univ. of Mo., '06.
Eli Stuart Haynes,
A. B., University of Missouri, '05.
Uriel Wright Hughes,
A. B., University of Missouri, '06.
Louis Etienne Imbert,
A. B., University of Missouri, '06.
Theckla Kahn,
A. B., University of Missouri, '02.
Mildred Durette Lewis,
A. B., B. S., Univ. of Mo., '05.
Adriana May Liepsner,
A. B., B. S., Univ. of Mo., '06.
Clarence J. Primm,
A. B., Park College, '06.
Mendel Penco Weinbach,
A. B., University of Missouri, '05.

3. *Degree of Doctor of Philosophy* (Ph. D.).

Howard Sprague Reed,
A. B., University of Michigan, '03.

Dissertation: *The Value of Certain Nutritive Elements in the Plant Cell. Installed as Tutor to the University.*

Edward Wilcox Hinton.

Honorary Degree of Doctor of Laws (LL. D.).

Alexander Monroe Dockery,
Frederick William Lehman,
Frank Thilly,
Gardiner Lathrop,
William Keeney Bixby.

PRIZES, MEDALS, SCHOLARSHIPS, AND HONORS.

Department of Law. The Edward M. Thompson Prize (American and English Encyclopedia of Law)—Injunctions against Strikes, Boycotts, and Similar Unlawful Acts. First, Forrest C. Donnell; Second, Vernon Morthland.

The American Law Book Company Prize, Frank Elmer Lee.

The College of Arts and Science. The William J. Bryan Medal (Political Science), ymond Hooper Alexander.

The William S. Woods Prize (Missouri History), Harry Edmund Kilmer; arles Hamilton Williams.

The Laws Medal (Astronomy), Eli Stuart Haynes.

The Nelson C. Field Prize in Poetry—English. John Shelby Paterson.

The Military Cup, Company C, Captain F. J. Bullivant.

The Military Medal, James Evans Stowers.

The Marksmanship Medal, Frederick Edmund Briggs.

The Stephens Medal (Oratory), William Thompson Nardin.

The James S. Rollins Scholarships.

In the Department of Medicine, Morgan Leland Clint.

In the Department of Law, Grover Cleveland Hosford.

In the College of Agriculture and Mechanic Arts (School of Agriculture), Claude Burton Hutchison.

In the College of Agriculture and Mechanic Arts (Department of Engineering —Civil Engineering), Frank Hicks Adams.

In the College of Arts and Science (Two), Charles Hamilton Williams, Laura Mabel Kingsbury.

The Honor of Valedictorian.

In the Medical Department, Charles Wade Simison.

In the Department of Law, Forrest C. Donnell.

In the College of Agricultore and Mechanic Arts (School of Agriculture), George Franklin King.

In the College of Agriculture and Mechanic Arts (Department of Engineering), Louis Harry Winkler.

In the Teachers College, Charles Hamilton Williams.

In the College of Arts and Science, Emily Maguire.

DEGREES, ETC., CONFERRED SINCE THE LAST COMMENCEMENT AND DURING THE SESSION (1906-7) NOW CLOSING:

(Note: The following were conferred at close of Summer Session, August 10, 1907:

Certificate to Teach for Two Years in Elementary Schools.

Mae Grant, Ada Abbott Stuart.

Certificate to Teach for Two Years in High Schools (with specialties as indicated).

Frederick Hurdman Barbee (English), Bessie Frieze (English, History),
Erma Rosalind Bishop (English, History), Emma Langenburg (English),
Andrew Sherman Boucher (Physics), Daniel Shutts (Physics),
Clara Crow (Zoology, Botany, English), Kirby Smith Wright (Mathematics,
Rolla B. Finley (Chemistry, Zoology), Physics).

Life Certificate to Teach in Elementary Schools.

Ernest Horn. Mary Daniell Jesse.

Life Certificate to Teach in High Schools (with specialties as indicated.)

Clarence Elmer Alford (History),
Etta Mildred Allder (French),
Oscar Elwood Anderson (History),
Charles Frederick Carr (History),
Elizabeth Faulkner (English, Mathematics, History),
Peter Thompson Hedges (Mathematics),
Ernest Horn (History),
Walter Scott Monroe (Mathematics, Physics,
Frances Louise Nardin (English, German, Latin),
Alice Milroy Paine (Mathematics, Engl
Harry Claire Philippi (Physics, Chemis
Elsie Winship Wadell (German, Latin
Mamie Clarie Walker (History),
James Madison Wood (History),
Oval Anthony Wood (Mathematics),
Edward Franklin Wright (Manual Training).

DEGREES.

Degree of Bachelor of Science in Mechanical Engineering (B. S.)

George Horton Blackman,
Philip Kuhl.

Degree of Bachelor of Science in Education (B. S.).

Clarence Elmer Alford,
Etta Mildred Allder,
Oscar Elwood Anderson,
Walter Arthur,
Andrew Sherman Boucher,
Charles Frederick Carr,
William Hutchinson Cook,
Sheldon Emmor Davis,
William Perry Divers,
Elizabeth Faulkner,
George Lorimer Hawkins,
Peter Thompson Hedges,
Ernest Horn,
Abner Jones,
James Isaac Malott,
Walter Scott Monroe,
Frances Louise Nardin,
Alice Milroy Paine,
Harry Claire Philippi,
Andrew Tilden Powell,
Elsie Winship Wadell,
Oval Anthony Wood,
Edward Franklin Wright.

Degree of Bachelor of Arts is conferred by the University upon the following Students:

Walter Arthur,
Andrew Sherman Boucher,
Eugene Edgar Funk,
Hubert Marcellus Harvey,
Don Gilmer Magruder,
Frances Mason,
David Allen Nicol,
Ina Kiosking Northcutt,
Miranda Allen O'Rear,
Merle Randall,
Edith Logan Snyder,
Mamie Clare Walker,
Charles Hamilton Williams,
James Madison Wood.

(Note: The following were conferred at Mid-Year Convocation, January 30, 1908.)

Bachelor of Arts.

George Henry Colvin,
Eva Malvena Marquis,
Harry Frazer Sedwick,
Charlene Shepard.

Doctor of Philosophy.

Ernest Browning Forbes.

Bachelor of Science in Agriculture.

Lewis Knudson,
Henry Herman Krusekopf,
Morris Mickey McCool,
Melvin Ernest Sherwin.

Bachelor of Science in Electrical Engineering.

mes Carr.

Life Certificate to Teach in Elementary Schools.

sther Patterson.

Bachelor of Science in Education.

arolyn Belle Benton, Albert Grant Harrison.

B). ROLLA

1. *ENGINEER OF MINES.*

Stanley Ralston Moore.

2. *METALLURGICAL ENGINEER.*

Evans Walker Buskett.

3. *BACHELOR OF SCIENCE (Mine Engineering).*

Arnold George Baker,
Albert Babbitt Bartlett,
William Ernest Brown,
Paul Richardson Cook,
Aubrey P. Fellows,
William Peter Hatch,
James Carter Long,
Walter Coffran Richards,
John Payne Sebree,
Tsik Chan Tseung, M. D.
Edwin Richard Wash,
Ira Lee Wright.

4. *BACHELOR OF SCIENCE (Civil Engineering).*

Eldon Everett Cook,
William Crutcher Perkins,
John Thomas Vitt.

5. *BACHELOR OF SCIENCE (Chemistry and Metallurgy).*

John Theodore Emanuel Ericson,
Walter Irving Phillips,
Andrew Jackson Seltzer,
Byron John Snyder,
Sakuhei Sunada.

6. *BACHELOR OF SCIENCE (General Science).*

John Bennett Scott.

APPENDIX I.

SUMMER SESSION OF THE UNIVERSITY, 1908

Courses in the following subjects will be offered:

Agriculture.	Latin.
Botany.	Library Science.
Chemistry.	Manual Training.
Civil Government.	Mathematics.
Economics.	Music.
Education.	Philosophy.
Elocution.	Physical Education.
English.	Physical Geography.
Freehand Drawing.	Physics.
French.	Psychology.
German.	Spanish.
History.	Sociology.
Horticulture.	Zoology.

The Summer Session will open on Thursday, June 4, and continue until Friday, August 7. There will be one term of nine weeks. The courses are arranged primarily with a view to the needs of teachers, and the time of the Summer Session has also been adapted to them.

There are no formal examinations for admission. Students are admitted to such courses as they are prepared for. A sufficient variety of courses is offered to meet the needs of all teachers, whether engaged in elementary or secondary instruction. All courses will be credited toward the degree and certificate from the Teachers College, and most of them will also be credited toward the A. B. degree.

The grades made in the Summer Session are accepted by the State Superintendent and by County Boards in lieu of examinations for teachers' certificates. Practically every subject that is accredited on Five Years' Certificates and Life Certificates is offered in this Summer Session.

The fee for admission is $5 for the entire Summer Session. ch student who takes laboratory work in Agriculture and Horti- lture, Botany, Chemistry, Physics, or Zoology is required to make deposit of $5 with the Secretary of the University to cover labora- ry fee of $2.50 and damage to or loss of University property.

Good board, including room and service, may be had in private milies at from $4 to $6 a week. If the students choose to organize emselves into a club the expense of living may be much reduced.

For further information in regard to the Summer Session, and or Circular of the Summer Session of 1908, address

THE DIRECTOR OF THE SUMMER SESSION,
Columbia, Missouri.

APPENDIX II.

THE NEW SYSTEM OF GRADING AND CREDITS.

The University has introduced a new system of grading and credits, in order to make the grading of all the different departments uniform, and to encourage the students to do in each course the best work of which they are capable.

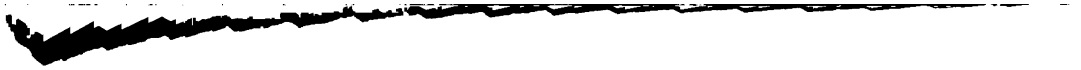
The grades adopted by the University are the following five: M, S, E, I, F. They are defined as follows: The grade of M means that the student ranks among the medium students, approximately fifty per cent. Above this grade are the following two: The grade of S means that the student ranks among those who are superior to the medium students. The grade of E means that the student is one of the few most excellent students. Below the grade of M are the following two: The grade of I means that the student ranks among those who are inferior to the medium students. The grade of F means that the student belongs among those ranking lowest.

It is expected that this will promote uniformity of grading in the different departments, since the meaning of each grade is no longer left to the discretion of the individual teacher, but is objectively defined. The student wishing to obtain in any study of his college course the grade of Superior, will have to convince his teacher that he is superior to at least seventy-five per cent. of all the students who have taken up this branch of study during the last few years. On the other hand, a student who impresses his teacher as being inferior to seventy-five per cent. of all the students in this branch for several years, will not receive the grade of Medium, but the grade of Inferior. Whether students of this grade are permitted to take up work for which this work is preliminary, will be decided in each case by the professor of the department in which the student wishes to take the new course, who has power to require any additional preparation for this permission, but without any raising of the grade originally recorded on the student's grade card. The highest grade, Excellent, will be given to the few students only who have proved that they belong to the class of students of unusual ability in the particular branch of study.

In order to encourage the students to do the very best work of hich they are capable, the Faculties of the College of Arts and cience and of the Teachers College have decided to credit their work n proportion to the grade received, thus enabling the ablest and most ndustrious students to *graduate in three years.* For each recitation our for which the grade of Excellent is recorded, the student will eceive thirty per cent. additional credit towards the total number required for graduation. For each recitation hour for which the grade of Superior is recorded, he will receive ten per cent. additional credit towards graduation.

The Faculty further recognizes that those students who are inferior to seventy-five in a hundred, but whose work is not estimated by the teacher as a complete failure, are entitled to some credit. Students will, therefore, be given four-fifths of the normal credit towards graduation for each recitation hour for which the grade of Inferior has been recorded.

In order to do perfect justice to the needs of the students coming to the University of Missouri, the Faculty adapts the methods of instruction to the students who are of average ability. Those who are of somewhat less ability will thus receive some benefit from the instruction and some credit, as above stated. But those who are of superior ability and willing to devote their best energies to their work, will accomplish much more than the average student, and will be given for this, not mere empty honors, but a just recognition of their accomplishments by additional credit.



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